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CEMENTING SUCCESS

The return of Russian–Ukrainian relations to rude health was Moscow's topmost foreign policy achievement in 2010. Luck played a major role, of course. This time around, luck—and the Ukrainian voters—favored Viktor Yanukovych. But the two governments have also done their bit by adding to the positive momentum in our bilateral relations. The two largest countries in Europe are finally working hard to restore a fraternal spirit in their relations, correcting past mistakes and laying a solid foundation for the future.

Obviously, much depends on our Ukrainian friends. They are often prone to taking a wait-and-see attitude, expecting Moscow to make the first move. It is important for Russia to demonstrate consistency and will in taking forward the initiatives and proposals it has already put on the table. Moscow must also be open to any initiatives voiced by Ukraine. Upbeat declarations and back-slapping bonhomie will not be enough to cement the foundations of our partnership. These foundations must not be allowed to crack once again at the very first sign of disagreement, which is why it is imperative for us to seize the moment, pull up our sleeves and make a start on strategic projects that can bring our two countries together.

As one of the top priorities, we must develop common approaches and joint Russian–Ukrainian initiatives on reforming the European security architecture. These initiatives may also involve Kazakhstan and Belarus. Ukraine will have an excellent opportunity (which Kazakhstan has unfortunately squandered) to become one of the real architects of European security when it assumes the rotating OSCE presidency. Russia, meanwhile, has already formulated its vision very clearly in the proposed European Security Treaty.

Being part of Europe, Russia and Ukraine, the two largest countries on the continent, are more than capable of meaningful dialogue with the EU, the United States and other players on the European arena. We can be exporters of security rather than mere importers. Ukraine can play a constructive role in finding a way of transforming rivalry over the proposed European missile defense system into cooperation.

Even more importantly, we have a real chance to leave our unseemly squabbling over gas prices behind, and move on to joint projects of strategic significance. We can work together in nuclear energy, space technologies and other high-tech industries. We can cooperate on GLONASS, the Russian satellite navigation system; we can pursue joint aerospace and shipbuilding programs. Ukraine can take part in air defense, anti-terrorism and defense industry projects with the Collective Security Treaty Organization (CSTO), without compromising its nonaligned credentials. We should think about formalizing a special status for CSTO partner states, modeled along the lines of NATO's Partnership for Peace program. Such a format of relations could be quite attractive for countries such as Ukraine and Moldova.

Our presidents are already working to make crossing the border between our two countries much less of a hassle. There is real hope that Ukraine might one day become a member of the Customs Union with Russia. Other ambitious projects on the table include a high-speed railway link between Moscow and Kiev. Russian and Ukrainian leaders should push the bureaucrats aside and plot a course towards merging the two countries' science and education systems. That is how we

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can begin our journey to Europe together. The peoples of our two countries should forget about Customs and Immigration. They should have complete freedom of travel between Russia and Ukraine. That will be the birth of Russia and Ukraine's common *answer to Schengen.*

Slow and steady wins the race. But the ''slow'' bit can safely be omitted when talking about the dynamics of Russian–Ukrainian rapprochement—and I am not just talking about the high-speed train! We have wasted enough time already. A far greater danger would be resting on our laurels. The success we have achieved over the past year has not yet become an irreversible breakthrough. We need to keep up the momentum, lest that success turns out to have been just a blip in an overall downward trend.

Meanwhile, over the past few weeks I have had a chance to discuss freedom of travel not only in Ukraine, but in India as well.

India is probably the only large country on the planet with which Russia has never had any serious disagreements. ''Strategic cooperation between India and Russia can and should become the main building block of a new world order,'' the Indian premier's advisor Satinder Lamba told me and my colleagues in Delhi. Here, just as in Ukraine, it is clear that in order to avoid stagnation and keep the momentum in our bilateral relations we need tangible and ambitious projects. In the case of India these projects are now limited primarily to defense industry cooperation—and herein lies the danger of stagnation. We should seek to build on our success by expanding our partnership to nuclear energy, biotechnology and space, among other areas. Some Indian experts go even further in their zest for closer ties with Russia. They believe India should offer Russia its help in populating the vastness of Siberia. ''We are ready to relocate up to half a million rural Indians from Punjab to Siberia, where they can develop agriculture,'' says Ambassador Rasgotra, head of the Observer Research Foundation. But at present, not only farmers but even wealthy businessmen from India are facing visa barriers when visiting Russia. These barriers are completely unnecessary and only hamper the dynamics of our relations.

While in India, I also had a chance to see for myself that the BRIC idea is rapidly gaining traction. Only a couple of years ago the Indians, Chinese and Brazilians visiting Moscow to discuss it were brimming with skepticism. These days they are full of expectation that this quadrangle, whose first summit was held earlier this year in Yekaterinburg (Russia), is about to start bearing fruit.

What, then, are the issues that the BRIC club should address, in a pragmatic rather than formal fashion? There are four broad areas of cooperation in which Russia, India, China and Brazil are all interested. The first is nuclear energy. India is especially keen on partnership in this area because it is not a member of the NPT. The second is joint space exploration. The third is IT, and the fourth is nanotechnologies. The scope for partnership in even more areas is already becoming clear. ''We, the four BRIC nations, must be ready to send a joint message to the rest of the world on issues ranging from international security to reforming the global financial system,'' my Indian colleagues often say. There is also growing interest in developing common approaches to problems of *soft security*, including climate change, transnational crime and migration.

Here the issue of free travel arises once again, only now it is travel between the BRIC countries. ''We will come to Russia to develop Siberia, and the Chinese can go to Brazil to develop the Amazon region,'' my Indian colleagues joke. (For an analysis of how BRIC is perceived in Brazil and of what role Brazil itself can play in BRIC, please see ''Brazil: Priorities and Phobias of an Emerging Power'' by Boris Martynov in this issue of *Security Index*). But this joke also has a kernel of some entirely serious reflections on the future of our world.

Russia, meanwhile, is still shrinking away from the recognition that only by allowing a large-scale influx of foreign labor can it fully achieve the economic modernization goals it has set for itself. But such an influx should take the form of legal, decriminalized and orderly immigration, which neither the donor nor the recipient country will need to be ashamed of. For now, immigration into Russia (mostly from Central Asia) is being treated as something of a dirty secret rather than an official, honest and deliberate state policy.

The highlight of this issue of *Security Index* is ''The Russian Age,'' an essay by Nikolay Spassky. A philosopher, diplomat and statesman, Spassky argues that Russia's deepest underlying weakness is the absence of a clear vision for the future. The country does not quite know what it wants to look like and what role it should play in the world 10, 15 or 20 years from now. As a result, neither does it have a clear plan or strategy for achieving its goals. In other words, Russia urgently needs to formulate a constructive agenda for the coming years, Spassky believes.

That agenda, he says, should be based on a new self-image of Russia—''not as a great self-sufficient power, but as an open and modern country on the crossroads of continents, civilizations, religions, cultures and economic systems.'' Our country has serious underlying weaknesses that will weigh it down over the next two decades—but it also has strong competitive advantages, which ''offer Russia a real chance of becoming one of the primary international centers of gravity in the 21st century, and a real *Empire of the Future*.'' Spassky proposes that in order to capitalize on these competitive advantages, Russia should work towards formulating and offering the world a ''Moscow Consensus,'' as an attractive alternative to the ''Beijing Consensus.''

On the whole, it appears that the year 2010 has brought us some degree of calm to reflect on Russia's place in the world over the longer time frame. Alas, this period will undoubtedly prove little more than a brief respite before a new whirlwind of events. Hold fast.

Vladimir Orlov

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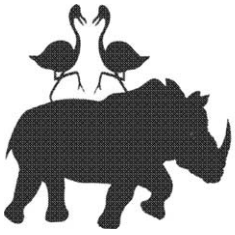

Dmitry Rogozin

RUSSIA WANTS MORE TANGIBLE COOPERATION WITH NATO

During its summit in Lisbon on November 19–20, 2010 NATO adopted a new ''strategic concept'' avowedly to prepare the alliance for meeting the new global challenges of terrorism, cyber attacks, piracy, threats to global supply lanes, etc. To counter new threats NATO will need global partnerships even with non-NATO countries. Alongside the summit, a meeting of the NATO-Russia Council took place on 20 November in Lisbon.

Following the conflict in the Caucasus the cooperation between Russia and NATO was put on hold. Nevertheless relations have become more intensive in the last several months. What can be expected after the Lisbon summit? In what spheres is cooperation necessary; in what spheres it is just impossible to find a compromise? How are the parties going to solve the most debatable issues?

We have put our questions to the Ambassador Extraordinary and Plenipotentiary, the Russian envoy to NATO Dmitry Rogozin.

SECURITY INDEX: At its summit in Lisbon NATO has adopted its new strategic concept. NATO officials say that work on this document has been very transparent and involved the alliance's partners—that was part of the reason for assembling the Group of Experts, led by its chair Madeleine Albright. How do you think that group has done? Do you think that its contacts with Russian officials and experts have demonstrated NATO's genuine aspiration to pursue much closer cooperation? Or were they more of a public relations maneuver?

ROGOZIN: It is NATO Secretary-General Anders Fogh Rasmussen who proposed the new strategic concept and set up the Group of Experts. In February 2010 the group came to Moscow. It met the secretary of Russia's Security Council Nikolay Patrushev, Foreign Minister Sergey Lavrov, members of the State Duma, and representatives of the expert community. Following these meetings the group drew up and published a report. We had several criticisms of it.

First, most of the mentions of Article 5 of the Washington Treaty contained in the group's report were in the section about Russia.

Second, there is the statement of the fact that relations between Russia and NATO are volatile. But merely stating the fact does not lead us anywhere.

Third, the report does not mention that only the UN Security Council has the power to authorize the use of force. Essentially they are trying to portray NATO as something equivalent to the United Nations—and they are doing that all the time. It is important to them to get rid of Russia's and China's right of veto and to do anything they please, to be able to use force whenever Washington deems it necessary and whenever it has the backing of its 27 allies.

These are all serious flaws. Nevertheless, let us give them credit where credit is due—everything was done ''transparently,'' as they say. They have done a lot of work. They have travelled a lot, they have been meeting experts, there have been discussions in various capitals. And now they

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say to us, ''See, unlike your way of drawing up your own military doctrine, we have conducted our debate very democratically.''

But what we have here is actually a bit of smoke and mirrors. It has turned out that all the work conducted by the Albright group was quite irrelevant. The text of the Concept itself is entirely different—nobody has seen it, nobody has discussed it. The new document was being kept secret; no one has shown it to me. So in actual fact, the work of the expert group and the preparation of the new strategic concept are two different processes that have nothing in common.

SECURITY INDEX: Russia has repeatedly criticized the NATO–Russia Council (NRC) for inefficiency. Should we perhaps consider setting up another institution that would facilitate the development of our relations?

ROGOZIN: We need to keep in mind that there is the Brussels of the European Union, and then there is the Brussels of NATO. Russia has extensive contacts—economic, social, humanitarian, and educational—with the EU. In 2010 the EU accounted for 50 percent of Russia's foreign trade. The EU really is our main partner. To compare, the U.S. accounts for only four percent of our foreign trade. In terms of the economy, we are completely dependent on the European Union.

But for all that, we do not have institutional cooperation with the EU. In other words, there is no extensive system of ambassadorial meetings or working groups. We have occasional visits by delegations from individual ministries. They come, they talk to us, and they go. But it is very important to have a system of extensive contacts.

Russia–NATO relations, meanwhile, are a different thing entirely. We have the NATO–Russia Council, we meet our counterparts all the time, we have breakfasts together, we have lunches together, we play football, we have shouting matches, we argue—in other words, we spend a lot of time together. There is constant communication on the level of ambassadors, senior diplomats, junior diplomats, military officers. Twenty-nine top leaders attend the summits, plus the Secretary-General. Our foreign ministers, defense ministers, heads of general staff also meet twice a year.

In other words, we have an extensive institutional network of contacts. But the actual amount of cooperation between Russia and NATO is not that great. Our cooperation was put on hold two years ago following the conflict in the Caucasus. The current tangible manifestations of our cooperation are not enough. We have no joint exercises to speak of. We have a few, but these are small local events or simulated computer exercises. We no longer have any joint missions or operations like we had in Kosovo.

SECURITY INDEX: Does Russia have any proposals on reforming the NATO–Russia Council? And if so, what is the reaction of our NATO partners to these proposals?

ROGOZIN: A structural reorganization of the council has already taken place in accordance with the Taking NRC Forward program document. We are not really bothered about the organizational details, the committees, subcommittees, working groups, etc. What we really care about is that the Council should live up to the letter and spirit of the 2002 Rome Declaration. We want more tangible cooperation. Right now, the NATO–Russian Council still looks like a uniform made a couple of sizes too large, in the expectation that the soldier who wears it will bulk up a bit. Well, the soldier still cannot seem to bulk up. We can take the uniform back to the tailor, but that will not solve our problem. What we need is a good diet and exercise.

SECURITY INDEX: Supplies of the Mi-17 helicopters for the Afghan army, paid for by the United States, can become the beginning of defense industry cooperation between Russia and NATO. Is this contract facing any obstacles? Are there any plans for cooperation on other types of military hardware?

ROGOZIN: There is a possibility that we will set up a trust fund in the NRC framework to pay for the purchase and maintenance of Russian-made helicopters. We want our helicopters to demonstrate the high quality of our defense industry's offerings.

There are, however, some difficulties. Some of the questions remain unanswered. How many Afghan pilots need to be trained? How many of those Afghan pilots speak Russian, and how many don't? Maybe some of them speak Tajik or Uzbek? They don't necessarily have to be trained in

Russia; it can be done in one of the Central Asian republics. How much fuel do they need? Which grade of fuel?

Another important issue is weapons and ammunition for our helicopters. Are they going to install their own avionics? We can supply our own systems. Which modifications of the Mi-17 helicopters should we supply—civilian, S&R, transport, or combat?

Launching defense industry cooperation with NATO in many areas, especially helicopters, is one of our priorities. NATO now has about 400 Russian-made helicopters owned by the Eastern European nations which have joined the alliance. These helicopters need repair, they need licensing from the original manufacturer, they need upgrades, engines, etc.

The second area of cooperation is weapons for these helicopters. We are already working with France: we supply to India our tanks equipped with French-made thermal imagers. We can supply Russian-made helicopters equipped with German, French, or Italian avionics or airborne weapons, the kind of equipment they are used to, the equipment that complies with NATO standards. This is all possible. The idea is to enter the markets of third countries through defense industry cooperation.

When such cooperation becomes routine, when other problems are solved, we will have a certain rapprochement. That is very important, because NATO is after all the world's largest military-political alliance. It is not in our interest to be enemies with them. Neither is it in our interest to join that alliance or to become subordinated to it. But we can work together, we can really be partners, and through this partnership we can gradually resolve our differences.

SECURITY INDEX: Are there plans to create a joint document with NATO on defense industry cooperation?

ROGOZIN: NATO has the Maintenance and Supply Organization (NAMSO), which has its own executive body, the NATO Maintenance and Supply Agency (NAMSA). These organizations are in charge of standardization, unification, and new weapons development, as well as logistics and rear services. This is a serious and big organization with headquarters in Luxembourg. Formally it is an independent legal entity, but in essence it is part of NATO.

We have almost finished preparing an agreement on cooperation between Russia and this international organization. The only remaining obstacle is that our lawyers have not yet come to an agreement on the issue of tax exemptions. We need to find a formula under which NAMSO would fall into the category of privileged international organizations that are not subject to any additional burdensome requirements. Once the agreement is signed it will need to be ratified by the Duma and the Council of Federation. But all of this is not that difficult, it can be done, and it needs to be done. Because when there is defense industry cooperation, there is also a completely new level of trust. After all, nobody sells weapons to their own enemies, right? One can sell potatoes to his enemies, but not weapons.

SECURITY INDEX: The ABM program can provoke a conflict—but it can also become an area of cooperation between Russia and NATO. But is NATO the party we should be talking to about this matter? What is the role played by the European members of NATO in the creation of a missile defense system on the European continent?

ROGOZIN: The United States has a stage-by-stage plan for deploying a missile defense system. It includes the deployment of land-based elements as well as ship-based elements. Some of these elements they are intending to station in Romania, possibly in Turkey, in Bulgaria. They have promised the Czech Republic that they will station radar on their territory, but not X-band radar, as was the plan previously—that radar could potentially be aimed at Russia. The plan now is to station radar with a shorter range, but it will still be part of the integrated missile defense system.

NATO says that in order to integrate this new system with the American ABM system and provide protection to all European countries, only about €200 million will have to be spent. This money will be spent by the European allies over 10 years.

Right now, the Europeans are not making any contribution to the ABM system at all, apart from offering their territory to host some ABM elements, plus the €200 million to be paid to the American defense industry. That is the whole extent of Europe's contribution.

So what is this European ABM system? First the Americans persuade the Europeans to buy the American Aegis ships and Patriot air defense systems. Then they persuade them to put these

ships and air defense systems under the control of U.S. military command. They say the button to operate this system is owned by NATO, but America keeps its own finger on that button.

SECURITY INDEX: Do you think the ABM system is really necessary to counter the threats to which our Western partners are pointing (Iran, North Korea, etc.)?

ROGOZIN: ABM today is all about ideology. In the past, 61 years ago, when NATO was being created, their ideology was, ''the Russians are coming, save yourselves!'' In the late 1980s the Russians were no longer coming after the collapse engineered by Gorbachev, so they came up with another ideology: ''Let us expand as much as we can!'' That is when they had their spontaneous expansion eastwards, several waves of it. NATO gained 12 new members. The next ideology is Afghanistan. It is not clear what exactly they are doing there. No one says anything about Al-Qaida or Bin Ladin any more. Now they are simply taking part in another country's civil war, because the Taliban are no different from the Pashtuns. Once the war in Afghanistan is over, the era of ABM will begin. That will be the fourth ideology since the day NATO was created.

As to the risks and threats, we believe that we need to be discussing all the risks, not just Iran. Why the fixation on Iran? Why are they picking on Iran, why are they trying to appoint Iran to play the role of the bad guy? If we want a serious discussion about missile risks, we need to look at all the countries that have the relevant technology and are now hiding it. They are also hiding weapons of mass destruction, among other things. So essentially Iran could be just an excuse to deploy the ABM system.

There is also one other thing. Remember the Maginot Line? It is a symbol of wasted defense spending. One should never underestimate his enemies. The French thought Hitler was stupid. They built the Maginot Line to defend against him, they dug up the trenches, they brought heavy guns, etc. They thought Hitler was so stupid that he would order his tanks to throw themselves against the Maginot Line. Things turned out to be rather different, as we all know. Hitler simply occupied the Netherlands and went around the Maginot Line.

Missiles aren't dangerous by themselves. Missiles are just delivery vehicles. A missile is only dangerous if it carries a biological, nuclear, or chemical warhead—that is when a missile becomes a weapon of mass destruction. But if the missile, as a means of delivery, can be intercepted, then who in their right mind is going to rely on a missile to deliver the actual weapon? They will simply choose another means of delivery. They will put the weapon into a container box or plant it on a ship. The ship will then enter the target country's territorial waters and blow up. Or it can be a train, or a car. There are a whole lot of other ways to deliver a weapon.

For some reason everyone in NATO is confident that if an attack comes, it will be a missile attack. That is a surprisingly irrational attitude, and there is simply no point arguing with them. Which is why I have drawn the conclusion that this whole thing is not about any real threat analysis—this is all about new ideology.

SECURITY INDEX: Does Russia need such an ABM system? Why does Russia want to develop a joint missile defense system? Does Russia believe that it really needs such a system to defend against real missile threats? Or is the whole point of taking part in the development of a joint ABM system just to make sure that it is not directed against us?

ROGOZIN: Whenever we ask NATO leadership about what exactly the system will look like, the answer we always get is, ''talk to the technical experts.'' So nobody really knows what it is going to look like. We cannot get any technical sense out of them.

Nevertheless, there are several important things to consider. First, we cannot but worry about the excessive mobility of the ABM system, which is not limited in any way. Back in Soviet times we used to lose track of U.S. aircraft carriers all the time—they would break off from their support group and disappear in the open ocean. Now there will be many more of these ships. We are being told that all of them will be on patrol in the Mediterranean, to counter the Iranian threat. But the Americans do not want to give us any guarantees that these ships will not leave the area where they need to be in order to intercept intermediate range missiles from the Middle East. We say to them, ''What if you disappear during the night and then reappear somewhere in the fjords of Norway, from where you can control the entire booster phase of the Russian intercontinental ballistic missiles—what should we do then?'' But we get no answer.

Second, we get no answer from them on the issue of limiting the performance of the interceptor missiles to the level required to counter the ostensible threat. NATO says the purpose of the ABM

system is to intercept intermediate-range missiles. This means that the speed of the interceptor missiles can be limited accordingly. Their target is a missile that never reaches outer space; its entire trajectory is much lower. Its speed is therefore also lower. But they refuse to accept any limitations.

Finally, there is the question of who gives the order to launch the interceptors. Let us imagine that the ABM system has been built. There is a group of military officers from different countries in the control room. Then one of them suddenly says, a missile is coming! It needs to be shot down as soon as possible. We are not going to have a meeting about it, are we? The decision will have to be made in a matter of seconds, maybe a few minutes. So the key question here is, who controls the button? There will be only one button. And there will be only one finger on it. We all know whose finger it is going to be. So what is the purpose of inviting us? What is our role, exactly?

However, if we can agree on dividing the sectors of responsibility within the ABM system, we can then agree on information and technology exchange. Such cooperation on ABM is possible. But it will most likely have a localized nature, i.e. it will be used to defend some strategic locations or peacekeeping contingents.

SECURITY INDEX: In 2003 you said in an interview for our journal that ''any practical joint operations by the Collective Security Treaty Organization and NATO are very unlikely in the next few years.'' You said back then that both of these organizations had fairly limited capabilities. Has anything changed since then? What is your assessment of the current situation, the capabilities of these two organizations and the potential for cooperation between them?

ROGOZIN: My main task now is to persuade NATO to cooperate with the CSTO. That would be in everyone's interest. It would be in NATO's interest to have a regional partner. After all, NATO is a military-political alliance, while the CSTO is a purely military alliance. There are very good reasons for the CSTO–NATO partnership to happen.

But, frankly, it is not going to happen. In formal and informal discussions my U.S. counterparts give me various reasons for their reluctance. First of all, they see no need for such a partnership because they would rather get what they want by talking to each member-state individually.

Second, they believe that they are the most successful military alliance in the world, while the CSTO has not yet become a serious organization. Why is the U.S. army always fighting somewhere in the world? Because the Americans want their armed forces to be always ready to conduct any military operation that is required of them. An army that does no real fighting is not a real army.

SECURITY INDEX: Barak Obama has announced the deadline for the withdrawal of coalition troops from Afghanistan: June 2011. If these troops are really pulled out by then, what will Russia's role be in the Afghan settlement?

ROGOZIN: Now that the coalition troops are in Afghanistan, they must achieve the objectives which they were declaring when they entered the country. They must leave a sufficiently stable regime that can control at least some of the country when they pull out. If they leave having done nothing but stir up a hornet's nest, we are not going to be happy about that. There must not be a pullout at any price.

There must be a clear exit strategy. When we left Afghanistan, we left behind a fairly stable regime. And despite our subsequent betrayal of that regime, I mean the Najibullah regime, it held for another three years after our exit. How long will the current regime last?

If the Americans leave Afghanistan, we are not going to send our troops there. It is not Afghanistan itself we are worried about, it is what's coming out of it. What if he Taliban send their columns to Tajikistan? I don't believe anything like that will happen, of course. The Taliban is a purely Afghan phenomenon. They are not going to try to export revolution.

But any war draws dogs of war like a magnet. There are 2,000–3,000 foreign militants in Afghanistan, there are even militants from the Caucasus there. And if there is a settlement in Afghanistan, these militants will look for a job elsewhere.

They will probably look for it in Central Asia, in Tajikistan and Kyrgyzstan. That would be a problem for us. We have interests there, that is our zone of responsibility, the CSTO zone of responsibility. As the fighting fizzles out in Afghanistan, these militants will be moving to Central Asia. That is a big problem for which we must be prepared.

But we are not going to send our soldiers to Afghanistan. That is a position of principle.

SECURITY INDEX: What are the other potential areas for cooperation between Russia and NATO? Do you think we need to develop joint education programs?

ROGOZIN: I think we need to make our contacts more professional. We need to develop cooperation on practical issues. Take, for example, one interesting project, STANDEX. The participants include the St Petersburg Radium Institute and French partners. They are developing a prototype instrument for remote detection of explosives in public places. If this system becomes operational, we can make our subway system, our train stations, and airports safe from explosives. We are working on this project in cooperation with NATO because we all realize that we are facing a common threat.

Another potential area for cooperation is medicine. After Afghanistan and the two Chechen conflicts we have a wealth of experience in treating gunshot injuries, field medicine, treating burns—we have top-class specialists in these areas. But we could make use of Western experience in more civilian areas such as heart disease or dentistry. You may have noticed that whenever a foreign leader falls ill, he is usually treated at a military hospital. These hospitals are considered to be the best. When I had a sports injury in Brussels, they offered me treatment at a Belgian military hospital. If I had to undergo surgery, I would have chosen that hospital. So we could organize exchange programs for medical specialists. We could learn from each other. That would be quite useful.

Yet another potential area for cooperation is language training for the officer corps and the Spetsnaz. Russian officers must become the cream of the crop. An officer must be fluent in at least one foreign language.

As part of the Afghan campaign we could give NATO officers training in the Afghan languages. We have Pashto and Dari experts, we have a huge Afghan diaspora and good contacts in Tajikistan. And we could use training in the English, French, and other European languages.

When France returned to the military structure of NATO in 2008, they immediately faced the problem of having to find at least 10,000 French officers with decent English. They simply don't have such numbers. Recently there were plans to send 200 police officers to Kyrgyzstan via the OSCE mission. But in the entire EU they were unable to find even 200 officers who speak Russian. They could not find even 20 who speak Kyrgyz.

SECURITY INDEX: In 2009, Russia put forward the European Security Treaty (EST) initiative. What is going to happen now with this initiative? Will Russia continue to promote it or modify it in some way?

ROGOZIN: It will. Furthermore, Russia has succeeded in not just ''encouraging the debate'' but also in putting the new philosophy of European security into the mainstream. Ideas of shared security are now firmly part of the thinking of the Western elites. We have therefore achieved our key objective: we have got the NATO political elite speaking the same language as us. They now take Russia and its interests into consideration as a hugely important factor of European security. The EST initiative is also moving forward in the form of the Corfu process, the process of adapting the OSCE to new challenges. Of course, the EST proposal will evolve, but its main idea will remain unchanged. That idea is that there must be clear rules of proper behavior by all the players on the international and military arena.

SECURITY INDEX: In your recent article in *InoSMI* (September 14, 2010) you gave a warning to U.S. experts: ''Colleagues, do not even try to make the 2014 Winter Olympics in Sochi hostage to your geopolitical scenarios!'' Are there any threats to Russia's plans regarding the Winter Olympics? Have those threats been analyzed?

ROGOZIN: They have. We are continuously monitoring and reassessing the existing risks and security threats. Naturally, this information is not being released to the media. But I would like to assure you: nothing and no one will prevent us from hosting a great Olympics. Russia will not be a disappointment as a host. As for sports, we are just another participant and contender for the medals, like everyone else. We are going to collect as many gold medals as our system of training

sportsmen deserves. By the way, sports achievements are also an issue of national security. The link here is obvious: if a country can train a great athlete, it can train a great soldier. Besides, the development of amateur and professional sports is an indication of a nation's well-being, of its quality of life. So I am eagerly awaiting the Sochi Olympics. It will be not just a celebration of sports but also an important milestone for Russia.

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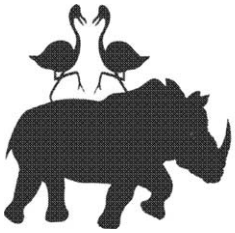

Vitaly Churkin

PEACEKEEPERS' MAIN TASK REMAINS UNCHANGED

The issue of making the UN Security Council, specifically its peacekeeping efforts, more effective has become particularly topical in recent years. What is Russia's position on the issue of UN reform? What are the main forms of peacekeeping that are currently dominating in the United Nations? How much of a priority is peacekeeping for Russia? How actively does Russia present in UN peacekeeping operations?

We have addressed these questions to the Permanent Representative of the Russian Federation to the United Nations, Representative of the Russian Federation at the UN Security Council Vitaly Churkin.

SECURITY INDEX: Calls for a reform of the United Nations due to its low effectiveness in ensuring international security and conflict resolution have become increasingly more frequent lately. What is Russia's position on this issue?

CHURKIN: In recent years, in response to the demands of our time, the United Nations has been going through quite a far-reaching process of reform. As an example, one could cite the establishment of the Human Rights Council, the Peacebuilding Commission aimed to help countries with post-conflict peace-building; or the recent decision to set up UN Women, a structure whose aim is to make the United Nations' work on gender issues more effective.

As for international security and conflict resolution, one should not underestimate the United Nations' achievements either. In the majority of cases, the UN Security Council promptly reacts to problems that arise, and does a lot of work to draw up mandates for peacekeeping operations that serve as a key tool for the United Nations when it comes to crisis or conflict situations. Furthermore, the United Nations is paying increasingly more attention to conflict prevention.

There are occasions when the United Nations does not take center stage in political and diplomatic efforts aimed at conflict resolution. The most typical example of that is Middle East settlement in which the main part in mediation belongs to the United States assisted by the Quartet. However, one should not forget the significant part played by the Security Council, which has established the main parameters of a future settlement. When crises arose—for instance, the conflict in Gaza in late 2008 or the war in Lebanon in August 2006—the most acute situations were resolved with the help of the relevant resolutions of the UN Security Council.

The Security Council is itself in need of reform: it should become more representative, reflecting the reality of the modern world. To this end, complex intergovernmental negotiations are under way in New York. Yet, one should be realistic: expanding the Council is unlikely to make it more effective; on the contrary, it would become even more difficult to find agreement between a greater number of points of view. The issue of the Security Council's effectiveness is not an issue of tools that need to be tweaked a little, but a matter of the intersection of the often divergent or even conflicting interests of different countries, both inside the Security Council and outside it. The best way to make the Security Council, as well as the United Nations as a whole, more effective is to continue with the painstaking work to harmonize the approaches of different

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members of the international community. It needs to be said that there are some encouraging signs: the world is becoming increasingly more aware that it is only through joint efforts that solutions to the numerous tasks facing us at the start of the twenty-first century can be found.

SECURITY INDEX: Peacekeeping has always been one of the main tasks of the United Nations. Which forms of peacekeeping operations are dominating at the United Nations at the moment?

CHURKIN: Modern UN peacekeeping consists of many components. Over the last 10 years, peacekeeping has become truly global in terms of its geographic reach. This year the number of people involved in peacekeeping operations has reached its absolute historical maximum.

There is no firm classification of peacekeeping operations, which, in our opinion, is quite right since every operation is unique. Among peacekeeping operations, there are relatively small missions that monitor compliance with ceasefire agreements or maintain a buffer zone, for example the UN missions in Cyprus, in Western Sahara, in the Middle East; as well there are large-scale peacekeeping operations that have complex mandates, which, in addition to purely military functions, include a whole range of related tasks. As part of many similar peacekeeping operations in Africa, for instance in Sudan or the Democratic Republic of Congo, UN blue helmets assist the national authorities in demobilizing former combatants, establishing the law-enforcement system and resolving a number of other pressing problems that a society which has lived through the hot phase of a conflict is facing. All this wide-ranging activity is united by one term, post-conflict peace-building. That is why a UN peacekeeper in the twenty-first century is not only a person in a military uniform, although the majority are, but is also a police officer or a civilian expert.

Yet, despite all the differences, the main task of all peacekeepers—assistance in ending an armed conflict, support for the political settlement process, and protection of civilians in crisis zones—remains unchanged.

SECURITY INDEX: How much of a priority is peacekeeping for Russia? How actively and in what form is Russia present in UN peacekeeping operations?

CHURKIN: Strengthening the United Nations' peacekeeping potential, improving the quality and responsiveness of peacekeeping efforts, is one of our obvious priorities at the United Nations.

In addition, Russia bears special responsibility as a permanent member of the Security Council, the main body of the United Nations Organization that sanctions the deployment of peacekeeping operations and exercises political control over their implementation.

We are taking part in 10 out of the United Nations' 15 peacekeeping operations and contribute to their material and logistical support. Several hundred Russian nationals, including military observers and civilian police officers, have been involved in UN peacekeeping operations in recent years.

There is a Russian helicopter unit in the UN Mission in Sudan. It is being reinforced by another helicopter team, which is being withdrawn from the UN Mission in Chad and the Central African Republic that is being wound up. This contribution is particularly useful in the context of preparations for the referendum on the status of Southern Sudan scheduled for January 2011. Russian peacekeepers' work, the level of their training, and their professional qualities invariably receive high marks from the UN Secretariat and the countries where peacekeeping operations are deployed.

Russia continues to enjoy solid and leading positions on the UN peacekeeping services market. This is particularly true for air transport services, in which Russian companies, for example UTair, are the United Nations' main partners.

Russia is also among the main contributors to the peacekeeping budget: after the levels of contributions to peacekeeping operations were revised (in December 2009), Russia's annual contribution has nearly reached 2 percent, which amounts to an impressive $300 million a year.

SECURITY INDEX: Russia is paying increasing attention to the development of the Collective Security Treaty Organization (CSTO), including its possible participation in crisis response operations. What is the current status of relations between the United Nations and the CSTO?

CHURKIN: Relations between the United Nations and the CSTO are developing fast. From the moment when the CSTO received observer status in the UN General Assembly in 2004, it has

established the necessary contacts with the Department of Political Affairs of the UN Secretariat, the UN Office on Drugs and Crime, the UN Security Council Counter-Terrorism Committee, and its Executive Directorate.

Given the growing importance of the fight against new challenges and the significance that the United Nations attaches to developing comprehensive cooperation with regional organizations, on March 2, 2010 the UN General Assembly, by a consensus vote, adopted a resolution on cooperation between the United Nations Organization and the Collective Security Treaty Organization. The adoption of this resolution laid a legal basis for further strengthening practical cooperation between the two organizations.

We proceed from the understanding that the mechanism of CSTO peacekeeping efforts that is currently being established envisages the possibility of using its potential in peacekeeping operations, including those conducted under the UN auspices.

SECURITY INDEX: What is the future of peacekeeping? Should it be carried out under the UN umbrella or will there emerge other organizations, for instance NATO which is seeking a global role for itself, that in time will assume this function?

CHURKIN: The United Nations' day-to-day peacekeeping work is undergoing constant transformation. It is of course difficult to be making any predictions here, but it is obvious that UN peacekeeping efforts will continue to be a called-for and effective mechanism for resolving crisis situations and ensuring the promotion of peace in hot spots all over the world.

One of the promising ways of making international peacekeeping more effective is to expand the United Nations' cooperation with regional organizations since they, as a rule, are better familiar with the intricacies of the situation on the ground.

A good example of this is cooperation between the United Nations and the African Union (AU): a joint UN/AU mission is deployed in Darfur (UNAMID). In Somalia, AU peacekeepers operate on a mandate issued by the Security Council and receive logistics support from the United Nations.

There is, however, a simple but essential rule applied here. It is imperative that the regional organizations operate in accordance with the objectives and principles of the UN Charter and that their relations with the United Nations are governed by its Chapter VIII, which clearly states that ''no enforcement action shall be taken without the authorization of the Security Council.'' This refers to the North-Atlantic Alliance, too.

SECURITY INDEX: Has the reset in Russian–U.S. relations had an effect on the nature of work contacts between the two countries' delegations at the United Nations?

CHURKIN: Work contacts between our delegations have always been quite good. It is another matter that their outcomes of course depend on the level of relations between Russia and the United States in a specific historical period. Now, as a result of the reset, this level could be assessed as quite high. Even in those issues on which our positions do not fully coincide, we do not act against each other. So there is a wide field for Russian–U.S. cooperation in the United Nations.

During the current, 65th, UN General Assembly, our countries jointly stress the importance of the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms signed by the Russian and the U.S. presidents on April 8, 2010 in Prague. Furthermore, our delegations jointly presented at the First Committee of the UN General Assembly a draft resolution on bilateral reduction of strategic nuclear arms and a new framework for strategic relations, which was adopted by a consensus vote.

Moscow and Washington cooperate closely in solving regional conflicts. At the Security Council and in the United Nations as a whole, our cooperation on Middle East settlement issues is, overall, constructive. Our countries have co-sponsored important resolutions of the UN Security Council, No. 1515 and No. 1850, in support of a Middle East settlement.

We are working together on Afghanistan, in order to secure a lasting peace and stabilization in that country. We are dealing with the difficult situation in Sudan. Permanent instability in Somalia and the problem of piracy off its coast is yet another area of common concern for Moscow and Washington. On all these issues, our two countries, including as permanent members of the UN Security Council, seek to make the maximum use of the United Nations' potential.

Yet another example of productive cooperation between Russia and the United States at the United Nations is the fight against terrorism. Our countries are active supporters of the United Nations' efforts in this area. We are engaged in fruitful cooperation on the counter-terrorism agenda inside the Security Council and in its relevant auxiliary bodies.

SECURITY INDEX: Another traditional issue for discussions in the Security Council is the Iranian nuclear program. How would you assess the effectiveness of the resolution on Iran adopted by the UN Security Council in the summer of 2010?

CHURKIN: Indeed, Iran's nuclear program has for quite a long time been the focus of attention of the UN Security Council. The Council has adopted a total of six resolutions on this issue, with four of them envisaging sanctions. At the same time, it would appear that the Security Council's sanctions decisions on the Iran nuclear program could not be called particularly effective. The thing is that restrictions on Iran introduced by the Security Council form one of the two paths, or tracks, pursued by the 5 + 1 group of international mediators (five permanent members of the Security Council plus Germany) in order to resolve the situation with the Iranian nuclear program. The other track consists in providing positive incentives for Iran to hold negotiations with the 5 + 1 group. These talks are aimed to clarify, in cooperation with the IAEA, the issues that the international community still has as regards Iran's nuclear program.

We very much hope that these talks will start and will be substantive. We see no alternative to a political and diplomatic settlement of the Iran nuclear issue. When it is found, it will be possible to say how effective our and our partners' joint efforts have been.

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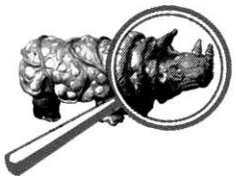

Nikolay Spassky

THE RUSSIAN AGE

Over the past two years, Russia has quite successfully passed two rather serious trials. First, there was the threat of isolation. That threat was an inevitable consequence of the preceding period in Russia's foreign policy, the period of consolidation and of Russia's return to world politics. The essence of that period was the complete fiasco of America's strategy of turning Russia into a weak and dependent state somewhere on the periphery of the Western world. The August 2008 war in the Caucasus was the culmination of that period. It is quite understandable that the United States could not just ignore our new-found strength and confidence. America responded by trying to cobble together an anti-Russian coalition. The attempt failed. The Russian public and especially the Russian elite, which had by then become used to openness in our relations with the outside world, had not really felt any consequences.

Second, there was the threat of collapse of the national finances. But here too everything has turned out fine. The world energy prices dropped sharply for a period, but did not stay at the bottom for too long. Meanwhile, state interventions have managed to prevent mass unemployment and social unrest.

As a result, social stability in the country has been preserved. Russia has breathed a sigh of relief.

What is more, a whole number of serious foreign policy problems and challenges that had kept the ruling classes awake at night have now been resolved, one way or another. That was thanks mainly to developments beyond our control (such as the elections in the United States and Ukraine)—but our policies have also contributed to the achievement of the desired outcome.

To begin with, the danger of Ukraine turning into an anti-Russian country and becoming a NATO member has now been eliminated, at least in the near time frame.

Second, our relations with the United States have gone back to normal. They are once again based on the strategic arms reduction dialogue. Such a situation is not quite adequate to the challenges of modernity, but at least it is familiar and predictable.

Third, our relations with China have been given a second lease of life. This time around they are much more realistic and pragmatic. No one has any illusions about the possibility of a close alliance; both sides are aware of the limits of our cooperation.

Fourth, we have brought the most dangerous of our regional games, the one in Iran, to a successful conclusion. We have completed the nuclear power plant in Bushehr. We have made careful use of that instrument of our influence on the other players, and we have managed to prevent our tensions with the West over Iran from degenerating into a full-blown crisis.

On the minus side we have the lack of a positive agenda in our relations with the former Soviet republics and with the two leading world nations, the United States and China.

Such a situation was not brought about by any weaknesses or miscalculations in Russian foreign policy. It is rather a consequence of a deep underlying problem. We have achieved the objective of foreign policy consolidation and passed the ensuing tests of our strength. But we have not yet managed to formulate a clear vision of the role we want Russia to play in world affairs 10, 15, or 20

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years from now. And we do not yet have a clear idea of what steps we should be taking to get there.

Difficulties in formulating a positive agenda for the future are not a peculiarly Russian problem. This is a common problem of our time and of our whole generation, which has emerged from the shock of the existing international system crumbling to pieces. After such an upheaval people tend to lose their sense of perspective for a time. They feel as if a great war has just ended, and their life-or-death objectives have suddenly been replaced by their usual daily routine. We would all do well to listen to Henry Kissinger, who said back in April 2009 that Barak Obama's main problem was his inability to translate all his grand foreign policy initiatives into a coherent foreign policy strategy and a clear plan of diplomacy. Not much has changed since then. But for all his shortcomings, at least Obama realizes the importance of having a *vision*—for individual and for entire nations alike. The problem is, a thing like vision is always very difficult to formulate.

But let us try.

Deep inside, every member of the Russian ruling classes knows what he wants for his country. He wants Russia to restore at least some of its historic territorial domain which it lost in 1991. Of course, such a restoration should be unquestionably democratic, legitimate, and transparent. It should be achieved through a free and legitimate expression of will of those peoples of the former Soviet Union who whish to become reunited with Russia. But that geopolitical ambition has several deep flaws.

First, it cannot be admitted in public. In the existing situation of lingering media-fuelled near hysteria over this subject, any hint at such an admission would inevitably trigger an outpouring of anti-Russian sentiment. That could cause a very real deterioration in our relations with the neighboring countries in question.

Second, 20 years after the fall of the Soviet Union there is a sad realization that this goal is becoming increasingly unlikely ever to be achieved, even in the form of an amorphous federation. Twenty years is a fairly long time, both for a person and for a state entity. Over these past 20 years most of the former Soviet republics have built fairly functional state machines, with all the attendant attributes. Even more importantly, these republics now have their own ruling elites. Barring some extreme and pressing need, these elites are unlikely ever to accept reunification with Russia.

So what can be done?

If any one of us was asked 8–10 years ago how we see the world around us and Russia's place in it, the answer would have been fairly simple. It would have focused on the need to overcome the abnormal and humiliating position Russia had found itself in at the end of the 1990s. But now, things are much more complex. The abnormalities of the 1990s have largely been rectified.

WHAT IS OUR CURRENT VISION OF THE WORLD IN THE TWENTY-FIRST CENTURY?

First of all, the world is in for a radical rebalancing or power. That rebalancing is already under way, it is unstoppable, and it will define world politics in the new century. That, however, is only part of the story.

Another part of it is the appearance of new players in the international area. These are the new non-state actors, which are becoming increasingly bold and confident in their dealings with the states.

The very nature of international relations is undergoing a fundamental shift. Now that the world dominated by two rival superpowers is gone, the old bloc matrices are beginning to crumble. State groups and alliances are increasingly becoming flexible, ad hoc, and more akin to a network than a bloc.

But even that is not the whole story. Speaking about the radical rebalancing, let us not forget that our own ideas of what power means are also undergoing a profound transformation. The relative importance of the various aspects of power for the overall strength of the country is changing all the time. One of the most obvious manifestations of that process is the ongoing revolution in warfare, which is happening right before our eyes. From land, sea, and air warfare has now spread into outer space and cyberspace. The prospect of a nuclear-free world has become more of a

long-term goal than an idealistic dream. But that is only because the military establishments are gradually coming to grips with the idea that weapons even more powerful than the nuclear bomb are already on the horizon.

Let us now speak in more detail about these developments, and try to understand their impact on international relations. It is entirely likely that the ongoing gradual erosion of the nuclear nonproliferation regime will continue unabated. It is just as likely that the threat of nuclear terrorism will continue to grow, and that terrorists will eventually succeed in pulling off a nuclear attack, in some shape or form.

Neither can we rule out a new ideological split in the world—although its precise nature will be different this time around, given the new ''network'' architecture of international relations. The split will not be between Christianity and Islam. The divide will be along very different lines. On the one side there will be a coalition of aggressive neo-liberalism, spearheaded by the followers of Friedman and Bush Jr. On the other—a coalition of the *new left*, a broad international *people's front* bringing together anti-globalists of all hues and stripes, from Hugo Chavez to Naomi Klein.

For Russia, by the way, such a reformatting will bring only trouble. So far we have succeeded in positioning ourselves mainly as the champion of anti-Americanism, the defender of the weak, and protector of the oppressed. The problem is, the social structure of post-transition Russia is radically at odds with that role. The richest 10 percent of Russian households outspend the poorest 10 percent by a factor of 15, rather than the accepted norm of six to eight. With such a gaping chasm between its rich and poor, Russia can hardly remain the cheerleader of the world's have-nots.

The brief sketch of world politics in the twenty-first century outlined above is by no means the full picture. That picture is painted by the billions of people living on this planet. Each one of these people struggles for existence, for food and shelter, each one loves, gives birth to children (or chooses not to), and passes on his or her knowledge and experience to them. Each tries to understand the surrounding world, including outer space and the world under the microscope. Each seeks prosperity. Most importantly, each wants to be happy.

The threats to the human environment posed by the imbalances of our science, technology, and economy are no longer being seen as an abstract concept. For several decades now the world has been discussing things like climate change or new epidemics. But it is only now that we are beginning to take these problems seriously. A relatively minor eruption of a volcano with an unpronounceable name somewhere in Iceland has recently brought air traffic over nearly half the planet to a standstill. What if there is a large eruption? Or take the H1N1 pandemic, which brought us to the verge of putting entire continents under quarantine.

This is not about doom-mongering. This is about the fact that the nearly seven billion people on this plant consume about four billion tonnes of oil and three trillion cubic meters of gas every year and produce 31.3 billion tonnes of carbon dioxide. They keep migrating, they keep traveling all around the planet, and they are already disturbing the natural balance of their environment. The consequences are both serious and unpredictable.

A revolution is under way in the world's energy industry. For the sake of simplicity, let us say that every phase of human economic evolution has its own primary energy source. The primary source of energy in the nineteenth century was coal. In the twentieth century it was oil. Now hydrocarbons are being phased out in favor of nuclear and alternative energy. Meanwhile, thermonuclear and hydrogen energy is nearing commercialization. It will not happen in the next year or next decade, but the second half of the twenty-first century is a fair guess.

Energy-saving technologies used to be an exotic whim, a tribute to political correctness. Now they are turning into a highly profitable global industry worth tens of billions of dollars.

Even the car industry, which has stuck to the internal combustion engine since the 1920s, is finally embracing innovation. Hybrids are already available. All-electric cars are expected to enter the mainstream in another 10 years' time.

There are also the biotechnologies, nanotechnologies, the knowledge economy, and the spread of IT and telecommunication technologies. Bill Gates wrote about many of these futuristic ideas back in 1995 in his book *The Road Ahead*. Now they are all becoming real.

Great advances have been made in mind-altering drugs. We are close to the point when programming human behavior with the help of such drugs will become a distinct possibility. Leaked information on the methods of interrogation used by the Americans in Iraq under the Bush administration as part of the global war on terror gives a lot of food for thought.

Scientists are making serious progress in stem-cell research, despite all the attempts to ban or discourage such experiments. Gene engineering, which was firmly in the science fiction realm only a few decades ago, will soon become a reality.

There is also the permanent human presence in space aboard the International Space Station, there is the Hubble space telescope, the probes being sent beyond the outer reaches of the Solar System. . . . There is a real possibility of contact being established with extra-terrestrial civilizations.

Of course, all of this can be brushed aside as pipe-dreaming. But the list of recent science and technology breakthroughs goes on and on. Economic, scientific, and technical progress in the twenty-first century is gaining such a rapid pace that the usual stereotypes of human thinking, behavior, and relations that have served us for millennia are becoming irrelevant. The stereotypes of international relations and the whole international system cannot escape this radical change.

WHAT DO THE CHANGES OF THE TWENTY-FIRST CENTURY MEAN FOR RUSSIA?

We are in for some turbulent times. But everything is relative. The times ahead will be turbulent and unpredictable, without a doubt. However, barring some catastrophic malfunction in the international system, there is reason to hope that these times will be relatively peaceful (though the people of Ruanda, Darfur, or Osh Province will probably disagree). A great war involving the great world powers is not on the cards.

People around the globe will enjoy greater prosperity, especially in those countries that have managed to put the benefits of globalization to good use. According to calculations made by the Carnegie Foundation, more than 50 percent of the population of sub-Saharan Africa, which is the poorest part of our planet, lived on less than 1.25 dollars a day in 2005. By 2050 that proportion, adjusted for dollar inflation, will shrink from 50 percent to 8.4 percent. While short of an outright miracle, such a change will be a very definite improvement.

Meanwhile, Russia is entering the new century having overcome a severe crisis, as an independent, self-sufficient, properly functioning, big, and strong country built on the ruins of the Soviet Union. In addition, thanks to a favorable combination of external and internal factors (including extremely high energy prices, the tough and uncompromising position of our previous leadership, and the stupidity of the previous American leadership) Russia has become a much stronger player in the international arena over the past decade. Nevertheless, all of our underlying weaknesses remain largely unresolved.

There are three of them. The first is the woeful demographic situation. The best we have managed so far is to slow down the shrinking and ageing of our population. But we still have not found a recipe for growth. According to one forecast, there will be only 109 million people left in Russia by 2050. The country's population will be smaller than that of Brazil (228 million), Nigeria (357 million) or Bangladesh (280 million). It will be only slightly bigger than the population of California, which is projected to rise to 82 million people by that time.

The second key problem is the entrenched dependence of the Russian economy on the export of minerals, which has become something of a vicious circle. This problem is one of the main topics of the *2020 Concept*.

The document, in my opinion, is serious, useful, innovative, and very honest. It has set a new standard in Russia in terms of how a public debate of such documents should be conducted. But one particularly noteworthy target it contains is that Russia's share in global GDP (adjusted for purchasing power parity) should rise from 3.2 percent in 2007 to 4.3 percent in 2020. The document recognized that the country's ability to achieve that target was far from guaranteed. It is now becoming clear that in the wake of the world economic crisis even that fairly modest target is probably unrealistic. That is not a tragedy in itself, and there are more important things in life than a country's share in global GDP. But the fact that Russia is wallowing in the three to four percent range, compared with China's projected 15 percent by 2020, is fairly disconcerting.

Hence the desperate attempts by the presidential commission on modernization to find a way of spurring innovation in at least some of the Russian industries.

Our third major weakness is the government system created over the past 10 years. Corruption remains a huge drag on our country, but even that is not the main problem.

In the 1990s we failed to create a workable model of a democratic system in the traditional Western sense of the word. For now let us put aside the question of whether the benefits of that model are real compared with other models, or whether it can work in Russia. Let us just state the fact that during the rough-and-tumble 1990s the democratic model was severely discredited in Russia. As a result we had to build our own model. Its distinguishing characteristics include centralization, a rigid chain of command and control, and a large micromanaging government. This model has proved to be fairly reliable—but it is cumbersome, inflexible, and very expensive to maintain. It will be very difficult for our country to succeed with such a model in the twenty-first century.

As we can see, all three of Russia's main weaknesses are very serious.

What, then, are the chances of these weaknesses being eliminated, against the backdrop of all the changes that will define the shape of the twenty-first century? Surprising as it may sound, *given the right approach, almost every single one of these global transformations can be turned to our advantage.*

The essence of the changing meaning of power in the twenty-first century is that the numerical advantage—in people, weapons, industrial production, or accumulated material wealth—is becoming much less important. These are the very power indicators in which we are becoming weaker. So if we manage to adapt to these changes, which place an emphasis on *smart power*, we can secure a worthy place for ourselves, maybe even a leading place in the twenty-first century. The question is, how can we pull it off?

The main problem is in our heads. We need to change our attitude to how things are done in Russia, and to our role and place in world affairs. We need to realize that we are an *anti-status quo power*—in other words, we are a country whose prosperity, well-being, and very future depend on changing the existing system. So far, we have not made that fundamental choice. That is quite understandable, given all the upheavals we have been plunged into against our will after 1985. So far in our domestic policies and in our international strategy we continue to seek the preservation of the existing systems and structures, trying to adapt them to new reality rather than tearing them down and looking for a new architecture. That is the core of our problem. With such an attitude, we cannot aggressively turn the ongoing changes to our advantage.

In some limited sense, the twenty-first century will be a bit like the nineteenth. It will be a century of careful balancing acts and numerous centers of gravity. Of course, the precise nature of the game will be different. There is the growing financial and economic globalization to consider, and the all-reaching effects of progress in science and technology. Nevertheless, the twenty-first century will be a century of many centers of gravity. In such a multipolar world, a country that wishes to be successful will need to accumulate greater power and win the support of the greater number of neighbors. It order to do that, that country will need to be strong. To increase its strength, the government will have to persuade its own people that such strength is necessary, and the other governments that this will not be against their interests. And that is the key difference between the twenty-first century and the nineteenth.

In the nineteenth century, the governments needed to win support for their course only from the political and economic elite. Now, in a globalized world, the struggle for hearts and minds will include all the social and age groups in all the countries. This struggle will play out on computer screens and supermarket shelves, in university classrooms, on the floors of the stock exchanges, and on the Internet. Whoever wins this struggle will become the leader in the twenty-first century.

What chance does Russia have of winning this struggle? A fairly good one, actually.

But in order to win, we need to formulate in our own minds the idea that the Russian center of gravity is unique, and that it has its own destiny in the twenty-first century. If we fail to do that we will lack the motivation to win in the furious struggle for influence that will be the defining characteristic of this new century.

As we try to formulate that idea, we need to proceed from a new vision of Russia—not as a great and self-sufficient power, but as an open and modern country at the crossroads of continents, civilizations, religions, cultures, and economic systems. It is often said that we are trying to become another Byzantium. The comparison is not very apt. For centuries Byzantium had acted as a bridge and at the same time as a barrier between the West and the East. But it had never managed to become a melting pot. That is why it eventually collapsed. We too will collapse unless we develop our ability for synthesis, which we already have, but not in sufficient quantity. We are well placed to play the role of civilizational synthesizers.

Russia needs to formulate its vision of the world as a comprehensive system of international relations, not as an abstract concept. Allow me to explain.

THE RUSSIAN VIEW OF THE FUTURE WORLD

It is obvious that this vision of ours must be grounded in reality; it must honestly take into account the ongoing world trends, to the extent that they can be understood and extrapolated. But it must also reflect our own wishes and plans. We do have our preferences, or at least we should have them. . .. We should therefore make a correction in our projections for our own efforts to steer the international processes in the direction that we want (that is where the vision comes in). Vision is an indispensible element for the formulation of a long-term strategy and national security policy of any large country, especially if that country wants to become an independent center of gravity.

The absence of a clearly formulated vision of the world makes a country a passive observer, whose policies are reactive rather than proactive. On the other hand, a mistaken and distorted vision of the world which fails to take proper account of the ongoing trends can lead to major policy blunders. Such blunders have already led many a great nation to ruin and wiped entire empires from the map.

We must admit that, at present, our own Russian view of the world is rather muddled and opaque. As a result, it is not clearly understood by the government or the public in general. That, I believe, is probably our greatest national weakness, rather that our disastrous demographics or the dependence of our economy on energy exports. Because when a community has a clear and attractive understanding of the environment in which it will live in the coming decades, that community becomes capable of extended self-reproduction.

Our own vision of the world is the basis which allows us to build the attributes required for Russia to become an independent center of gravity.

What are these attributes?

First of all, any independent center of gravity should have its own unique way of life, which distinguishes it on the day-to-day visual level from the other centers. Such a way of life must not only cement the political and social setup of the country in question but also serve as a magnet for other countries.

All the existing or nascent centers of gravity, including America, Europe, China, India, Russia, and possibly the Arab world—have their own unique way of life, which they protect, reproduce, and export.

Hundreds of books were written in the Soviet Union about the American way of life as a factor of external expansion of U.S. imperialism. The topic has been beaten to death—but that does not change the real situation. A way of life is a very important attribute of power, which is indispensible for the formulation of an organic vision of the world grounded in social and historic traditions.

Russia had its own unique way of life before the 1917 revolution. During the early years of the former Soviet Union, the Soviet way of life also had the potential to become attractive for the rest of the world. Right now we are also building our own distinct way of life—but the process is far from complete, and it would be a great mistake to leave it to its own devices.

A way of life means a lot. It includes deep family traditions and relations between the successive generations; it encompasses people's attitudes to things like life, death, love, and friendship. It is manifested in national cuisine and dress. It is very important for a way of life to be not only self-sufficient (something that the Soviet way of life increasingly lacked in the 1960s, '70s, and

especially '80s) but also competitive. In the twenty-first century we will have to compete with such powerful models as the American, Chinese, or European way of life.

Even now the struggle for influence in places such as Central Asia and especially Kazakhstan is taking the form of a competition between the alternative ways of life, in addition to traditional instruments such as investment, development aid, defense industry cooperation, etc.

Competition will be furious, but Russia has good starting positions thanks to the two traditional features of its national character and way of life. Russia has a great deal of inertia—but at the same time it is quite good at assimilating foreign influences.

The way of life as an attribute of any independent center of gravity is closely related to two other attributes: culture and language. Here we have a strong competitive advantage. If there is one thing that no one can dispute, it is the global historical importance and the humanistic mission of Russian culture, especially in literature and music, as well as the colossal power of the Russian language as an international language. However, neither culture nor language can reproduce itself automatically, let alone export itself. In the 1990s and the early 2000s we lost a lot of ground, especially with regards to the spread of the Russian language as one of the main international languages. Some measures have been taken lately to reverse these losses—but they are not enough.

Measures such as financing Russian cultural centers, schools, and universities abroad are crucially important—but they cannot solve the problem on their own. The spread of any particular culture and language around the globe reflects two key factors: the role and place of the country in question in the world economy, and the inherent attractiveness of its way of life. During the ideologically dominated periods in international relations there can be yet another factor: the ability of a country to associate itself with the dominant ideology or religion. That is especially important when the ideology or religion in question is on the rise.

Orthodox Christianity can therefore make an immense contribution to the consolidation of the Russian center of gravity. But, for this factor to work to its full potential, the Russian Orthodox Church itself will have to adopt a new, more open, and inclusive view of itself. For now, that church remains primarily the church for Orthodox Russians. But it would be excellent if it could become the church for everyone in the world who adheres to the Orthodox faith, regardless of their nationality. That being said, under no circumstances must there be any proselytizing on the canonical territories of the other Orthodox churches, of course.

One final factor that needs to be mentioned is the role of Moscow as the capital, heart, and brain of the Russian center of gravity. A great capital, a national symbol, a city that is the focus of aspirations of millions of people, a city that embodies their dreams of wealth, comfort, beauty, and happiness—no proper center of gravity can exist without such an asset. From that point of view, Russia is in an excellent position. Moscow is undoubtedly one of the greatest world capitals—not just in terms of size but in terms of its political, economic, cultural, and civilizational role.

In that respect, Moscow is still well ahead of Beijing. Whichever way you look at it, the city ranks in the top three among the world cities, along with New York and London. It is a colossal magnet, and not just for the former Soviet countries. Over the past decade Moscow's power of attraction has skyrocketed. It is becoming a hub of global communications, a place where different peoples, religions, and cultures meet and mix, a place of civilizational synthesis. It is probably for the first time in the history of Russia that its capital can rightly claim its old title as the successor of imperial Rome and Constantinople. The Russian leadership must now learn to use this powerful instrument to the country's best advantage in order to consolidate Russian influence internationally.

Once again, it is crucially important that although we have some economic and social weaknesses, we also have a whole range of serious competitive advantages. They offer Russia an excellent chance to become one of the primary centers of gravity in the twenty-first century, and a true *Empire of the Future.*

These competitive advantages include our huge territory and our location at the crossroads of continents, our vast natural resources, our human potential, our uniquely rich humanistic culture, our strong foundation of history and tradition, the power of the Russian language, the influence of the Orthodox Church, and Moscow's magnetic pull. In order to achieve synergy between all these competitive advantages and convert them into a position of leadership for Russian in the

twenty-first century, there must be a working vision of Russia's place in the world, and of the world itself. Without such vision, all our competitive advantages will remain mere statistics.

Several years ago the term ''Washington Consensus'' entered the jargon of the political classes. It reflected the dominance at that time of the neoliberal approaches to government and international relations formed in Washington, in the spirit of the Chicago School. Some time later the chattering classes coined the term ''Beijing Consensus,'' reflecting not so much the real role of ideas generated in China as the country's rapid rise in the world economy and politics.

We now need to formulate and win international support for a ''Moscow Consensus.'' We have what it takes to do this. And unless we do this we cannot neutralize the negative effects of our own systemic weaknesses or eliminate these weaknesses altogether.

The Russian ruling classes must find powerful motivation within themselves if the dream (which is so far only a dream) of Russia becoming one of the leaders in the twenty-first century is to become a reality. A motivation based on patriotic values and consumerist ideals will not suffice. Loving Russia and aspiring to material well-being is not enough to form a center of gravity that would attract other countries and nations. The Russian elite must want—really want, in their minds and their hearts—their country to become one of the leaders of the twenty-first century. They must get the feeling that without it, without that goal, their consumerist happiness will be incomplete.

If such a motivation emerges, a uniquely Russian vision of the world will coalesce. Based on that vision we will be able to offer the world a ''Moscow Consensus.'' If that happens, Russian families will have more children, and people will be coming to Russia, in spite of all the problems that will probably be with us for decades to come—the climate alone is bad enough. But they will still come, and not just to escape starvation and penury—they will come to partake of the unique experience of life in Russia, just as people from all over the world go to Israel to become part of Israeli life. If that happens, companies will start investing in innovative projects of their own volition, and not just because the government tells them to. Our young people will once again want to become scientists, engineers, and doctors rather than just managers, bankers, and lawyers. Our mind-boggling social inequality will start to disappear, and many other good things will start to happen.

We need to stop being afraid of the twenty-first century. Unfortunately, we have got it into our heads that the new century brings us only threats, from Islamic extremism to climate degradation. If only we can abandon our phobias, we can live in the twenty-first century much more happily than in the twentieth. The past century had a powerful mobilization paradigm and required rigid self-discipline. The Russians, with their proclivity for anarchy and reflection, tended to panic when put in such a stifling environment.

The twenty-first century, meanwhile, is the age of multinational, multicultural, and multireligious social organisms. That is our comfort zone.

It is also a century of strong regions. That is also our comfort zone.

It is a century of public–private partnership in its various forms. That too has traditionally been our comfort zone.

It is a century with a powerful motivation to look for new non-Marxist formulas of social justice. Given all the dramas of our past, Russia will be comfortable with such a search as well.

At this point we should probably stop, lest we fall into pink-cheeked childish optimism.

Of course, the new century we are living in will be tough and often cruel. Of course, things will not be simple. But there is every reason to believe that this century will be better, kinder, and more comfortable than the previous one. There is reason to think it will be more successful for us than the twentieth century, from the point of view of ordinary people and the country as a whole. We just need to figure out what it is that we want from this century.

This century is a century of change. Change needs to be taken seriously. Our attitudes to change can vary. Luther, Lenin, and Gandhi all had very different attitudes to change. And we do not need to stick rigidly to some specific predetermined model. What is really important is that our unique Russian attitude to the changes that will define the shape of the twenty-first century should be in line with the spirit and essence of these changes. 

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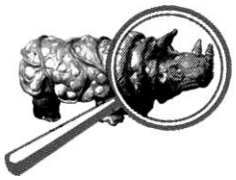

Boris Martynov

BRAZIL: PRIORITIES AND PHOBIAS OF AN EMERGING POWER

''The 19th century was the Age of Europe, the 20th was the American Age, and the 21st will be the Age of Brazil.'' This prediction, made by Brazilian President Luiz Inacio Lula da Silva in 2005, was met with universal skepticism by international observers. But, five years on, it no longer sounds like an outlandish piece of election campaign rhetoric. The largest country in Latin America, with a population of 190 million, is rapidly rising in the international economic and political pecking order.

Brazil has become the world's ninth-largest economy (GDP 1.5 trillion dollars). In 2016 the country will be the first Latin American nation to host the Olympics. It hopes that continued economic growth will propel it into fifth place in the GDP ranking by that time. In the Global Trends 2020 report by America's National Intelligence Council, Brazil is named as the next country after China and India that is likely to catch up with the developed world in terms of key economic indicators.[1]

BRAZIL'S ROLE IN THE GLOBAL ECONOMY

The BRIC term coined by experts of the Goldman Sachs investment bank in 2003 is now in popular use. According to these experts, Brazil, Russia, India, and China will dominate the global economy and politics by 2050. They believe China will become the world's biggest economy by that time with a GDP of 44.45 trillion dollars, followed by the United States (35.16 trillion), India (27.8 trillion), Japan (6.67 trillion), Brazil (6.07 trillion), Russia (5.58 trillion), Britain (3.87 trillion), Germany (3.6 trillion), France (3.15 trillion), and Italy (2.06 trillion).[2] In 2009 Goldman Sachs improved its forecast for Brazil, which they now expect to surpass Italy in terms of GDP by the end of 2020 (i.e. five years earlier than they thought in 2002), catch up with Germany in 2029 (seven years earlier) and then with Japan in 2034 (which the original forecast did not expect to happen at all within the 2050 time frame).[3]

But these projections, in and of themselves, could not have spurred the BRIC states (or the *new emerging powers*, as these countries are called now) to seek closer political cooperation. The fact that such cooperation is growing has been amply demonstrated by the two BRIC summits, held in Russia's Yekaterinburg in 2009 and in Brasilia in 2010. The four countries obviously have common interests in areas such as international politics and security. Brazil's growth over the past two decades has encouraged the country to seek a more prominent place for itself on the international area, as well as new allies.

In the last third of the twentieth century this tropical giant managed to build almost the whole range of modern industries, including steel-making and car-making, shipbuilding and aerospace, and chemical and pharmaceuticals sectors. Some of the largest companies in Latin America are Brazilian. The country is also strong in electronics and space technologies, biotechnology, and advanced machinery, including nuclear reactors. Over the past decade it has made rapid advances in IT and telecommunications. The biggest item of Brazilian exports in the pre-crisis year 2007 was cars and spare parts; industrial machinery was seventh and civilian aircraft 11th. In 2009 Brazil's Embraer became the world's third-largest maker of medium-haul jet-engine aircraft after Boeing and Airbus. The Brazilian mining giant CVRD is the second largest in the world, and

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Gerdau has become the biggest producer of sheet steel in the western hemisphere. Banco do Brasil, the oil company Petrobras, and the media conglomerate Rede Globo are all in the Top 100 of the world's biggest corporations. Over the past decade Brazil has also become a big exporter of capital. It has several transnational banks; some of them, such as Itau Unibanco, are on a par with OECD banks in terms of capitalization. Brazilian companies such as PaulOOctavio, Camargo Correa, Odebrecht, and Votorantim are undertaking massive investment and construction projects in Latin America, Asia, and Africa. Brazil has become a world leader in renewable energy (ethanol and biodiesel), deep-water drilling and biotechnologies. It is one of the world's five leading food producers, and a leading exporter of coffee, soy beans, orange juice, sugar, beef, and poultry. According to the Food and Agriculture Organization, Brazil, with its unique climate and natural resources, could potentially feed up to a billion people.

Even more importantly, over the past decade the country has begun to tackle head-on its most pressing problem that has long prevented it from joining the ranks of the world leaders—the problem of poverty and social inequality. In the run-up to the presidential elections on October 3, 2010 commentators in the world media praised the record of the outgoing president, Lula da Silva. Over the past eight years his intelligent and effective social programs have lifted 20.5 million people out of poverty and swelled the ranks of the middle class, the main driving force of the country's economy, by almost 30 million (to 45 percent of the population in 2010).

The secret of this success is an economic and social model that relies on a combination of economic liberalism and state support for the poor. Unlike the ruthless neoliberal model, which the country rejected in the mid-1990s, the new policy launched by Lula's predecessor, Fernando Henrique Cardoso, was aimed at fostering the development of the domestic market as a reliable instrument of economic growth. Thanks to that strategy Brazil has been one of the least affected by the world financial crisis among the Latin American economies. GDP growth fell to zero in 2009, but rebounded to a healthy 7.3 percent in 2010. The projection for 2011 is eight to nine percent.

This national strategy has become the foundation of democratic stability and broad support for the government's key domestic and foreign policies. The core of that strategy, the idea of *national greatness*, has the backing of all the major political forces. That idea was introduced into the mainstream back in the early twentieth century by the founder of modern Brazilian diplomacy, Baron do Rio Branco. The social and economic stability the country has now achieved means than neither of the two main political parties, the Workers Party (PT) and the Brazilian Social Democracy Party (PSDB), want to risk any leftist or rightist experiments and deviate too far from the center. Brazil is entering the twenty-first century as a nation that has already chosen its development strategy. It is gearing up to pursue an increasingly active regional and global role as it continues to reap the economic and political dividends of that successful strategy. The country is entering the new century on a high note. That gives extra energy to the young Brazilian nation, which has always been known for its optimism, openness to new ideas and belief in a better future.

Of course, the country still has many problems, chief among them poverty. It has yet to find the role and place in the world economy and politics that would befit its new-found strength. Its policy of developing cooperation with the other three BRIC nations has a strategic and long-term nature. Brazil has already demonstrated its ability to bolster global political, energy and food security. It can make a valuable contribution to science and technology, conservation efforts, and the preservation of our planet's cultural and ethnic diversity, the eradication of poverty and social inequality, the improvement of healthcare, and the development of culture and sports.

Brazil has always had an ambition to become the regional leader in Latin America. In recent years it has also aspired to project greater influence on a global scale. Brazilian diplomacy is recognized as the strongest and most experienced in the region. The country has built up its *soft power* through efforts to find a peaceful resolution to international conflicts and through its arms reduction and limitation initiatives; it has also worked to strengthen international law and develop international cooperation.

In the international arena Brazil has traditionally stood by the ideas of sovereignty, equality and non-interference. It has spoken against the practice of *humanitarian interventions*. It was one of the leading proponents of the Rio Group decision in April 1999 to condemn the NATO operation in Kosovo. In 2003 Brazil opposed the U.S. invasion of Iraq. Shortly before the war began, President Lula da Silva proposed an international conference on Iraq to find a peaceful resolution.

Unfortunately, his call was left unheeded. Brazil is an advocate of adopting a special UN convention on countering terrorism. It supports nonproliferation of nuclear weapons, WMD and related technologies. It is a member of the 1967 Tlatelolco Treaty, which declared Latin America a nuclear weapons free zone, the 1968 NPT treaty, and the international Missile Technology Control Regime. It is also a member of the International Convention to Ban Landmines. As part of the Organization of American States and on the regional Latin American level Brazil participates in all the conventions on arms limitation, including conventional arms, and in efforts to build trust between the region's nations.

In Russia, information regarding Brazil is scarce; what is worse, it is often based on obsolete stereotypes. Many Russians still view Brazil as the country of carnivals, football, samba, and fiesta, and know very little about its impressive economic achievements. They still think of Brazil as a nation that has accepted its place in the U.S. sphere of influence, despite the fact that it has a whole range of interests that often run counter to those of the United States. The author of this article has often heard people in Russia saying, ''OK, let's talk about BRIC. China and India are obviously important to us for economic, political and security reasons. But how come Brazil is included in the same group? It is far away, and it is not among our traditional partners. How can its security interests be the same as ours?'' Let us try to find an answer to that question.

SECURITY POLICY PRIORITIES

Brazil's national security priorities have undergone a substantial transformation over the past five decades. Fifty years ago, the country was content simply to follow U.S. foreign policy and to remain on the periphery of the collective Western security structures (National Security Doctrine of the Higher Military School, early 1960s). Brazil's current strategy is to position itself as an independent power in the region and globally, and one of the newly emerged global leaders (National Strategy of Defense, December 2008). This transformation led to a shift in the focus of national security policy in the late 1990s from the country's southern borders to the Amazon region, and the adoption of an ambitious new program for the national armed forces in late 2007. Despite the long intervening period between these two events, they are closely linked.

The Amazon region is five million square kilometers of God-forsaken *green hell* that covers 59 percent of Brazil's territory. But it was only in 1996 that the region started to figure prominently in the country's strategies. Until that time, Brazil was too distracted with domestic political squabbles to make proper use of this potentially very rich part of our planet. The military rulers who came to power in 1964 were preoccupied with limiting Soviet and Cuban influence. In the mid-1970s they shifted their attention to traditional rival Argentina, obsessed as they were with old geopolitical phobias. In their ambitious development plans the Amazon region was seen merely as a source of timber, gold, and gems. Preserving its unique biology and inhabitants was far down the list of the country's priorities. After the return to civilian rule in 1985 it took Brazil several years to strengthen its democracy (the adoption of the constitution in 1988) and begin developing cooperation with its neighbors in the region (the 1991 Mercosur treaty[4]). Only then was the new vision of the country's security interests officially reflected in the new doctrines and strategies.

The National Defense Policy (NDP) adopted in 1996 was the first document to outline an independent, creative, and flexible national strategy fit for the new international situation. The strategy recognized that the key feature of that new situation was its unpredictability. The 1990s were a time when the principle of national sovereignty was under attack from all sides. Brazil's NDP document, however, called for a strengthening of national sovereignty as an instrument against ''growing ethnic, national and religious extremism and the trend towards global fragmentation.'' The new military doctrine introduced the idea of *sustainable defense*, borrowing from the principle of *sustainable development*. Its primary objective was to protect the people, property and *resources of the Brazilian nation* and to ''protect the Brazilian Amazon region through efforts of the entire nation and by means of military presence'' from the threat posed by ''armed gangs infiltrating from neighboring countries and international crime syndicates.''[5] Here the document referred to Colombian FARC and ELN guerrillas, who had by that time become part of the international drugs trade.

In the run-up to the adoption of the NDP Brazil moved large troop numbers from the Argentine border to the Amazon region (1993). It also conducted its first military maneuvers in the Amazonian state of Roraima, which have since become a regular event. Also in 1993 the country set up the Amazon Surveillance System (SIVAM), which now includes a network of stationary and

mobile radars augmented by airborne systems (AWACS aircraft and Tucano jets) to monitor the Amazonian territory and airspace. The system's control center is located in the heart of the Brazilian Amazon region, the town of Manaus, which is the capital of Amazonas state. All these moves reflected a radical shift in Brazil's defense strategy. That strategy was now part of the *overall plan rapidly to transform the country into a leading world power.* Brazil began to view the Amazon basin as a long-term geopolitical and geo-economic asset rather than a burden. The country's ruling elite had realized that the region was the key to Brazil's future prosperity.

Indeed, it is not just Brazil's own prosperity that depends on Amazonia. Very soon the region could become hugely important to mankind in its entirety. It holds 67 percent of our planet's tropical rainforests, 20 percent of its fresh water reserves, and 30 percent of all known animal and plant species. The Amazon is a huge treasury of biodiversity. It is also a gigantic and largely untapped source of mineral resources, including fossil and renewable fuels. It is hard to comprehend the full scope of the region's scientific, economic, and environmental potential. It can only be compared to Russia's own Siberia. It is for a good reason that former Brazilian President Cardoso described his country as a ''tropical Russia'' back in 1994.

Now let us look at Brazil's phobias and priorities. Even before the adoption of the NDP document many prominent Brazilian scientists (Thomaz Guedes da Costa, Argemiro Procopio, Moniz Bandeira, and others) expressed their concerns that Washington might try to use its position as the world's only remaining superpower to try to get hold of the Amazon's riches. Such attempts were made on many occasions throughout the nineteenth and twentieth centuries. The United States tried very hard (repeatedly violating Brazil's sovereignty in the process) to open the Amazon for free navigation and enable US corporations to set up shop there using exterritorial rights and privileges. Only Rio Branco's skillful diplomacy managed to forestall these plans by creating a semblance of ''special relations'' with Washington, and preventing the appearance of yet another ''independent Texas'' on the map of South America.[6]

The excuses and pretexts that might be used these days to achieve the same end are many. One is environmental, the idea being that the Amazon should be declared *humanity's common heritag*e. Another is humanitarian, with the ostensible aim of protecting the rights of the indigenous peoples of the Amazon, including their right to self-determination. Other flags of convenience might include the fight against terrorism, drugs trafficking, and organized crime. Speaking about the humanitarian pretext, some experts highlight the UN declaration on the rights of the indigenous peoples. They say the declaration ''enables the Yanomami tribes, which live near the border with Venezuela, to dispute the rule of the central government and gives them the right to seek and receive support from other countries.''[7]

Over the past decade these concerns have become more widespread in Brazil. The country saw attempts to impose a new world order dominated by a single superpower, reduce the role of the UN, and create new precedents in international law as a threat to its own security. These fears contributed to the victory of the Workers' Party candidate, Luis Inacio Lula da Silva, in the 2002 presidential election. One of the first policy statements Lula made in December 2002, even before his inauguration, was that Brazil would ''seek partners among the countries that are similar to us in terms of their size and potential, such as Russia, China and India.''[8] These words did not come out of nowhere. The idea of developing closer partnership with the ''whale countries''[9] was actively discussed in Brazil under Lula's predecessor, President Cardoso. That idea was also in line with Brazil's established foreign policy priority of pursuing cooperation with the most influential of the developing nations in the UN, UNCTAD, WTO, the 77 Group, and other organizations.

Brazil took to the BRIC idea, which was coined by international financial structures, with great enthusiasm. The political significance of being part of that bloc far outweighed the actual economic dividends. Brazil's trade with China was already growing very rapidly, BRIC or no BRIC. Trade turnover with Russia remained quite low, despite all the declarations, while India accounted for only 1 percent of Brazil's imports and exports in 2003. But both China and Russia are members of the UN Security Council. India, meanwhile, is one of the top contenders, along with Brazil, Germany, and Japan, for a permanent Security Council seat. Brazil was well aware that partnership with these countries would greatly improve its chances of becoming a member of the exclusive club of world leaders—something the country has been aspiring to since 1945.

The BRIC idea soon led to the creation of IBSA, a consultative political organization that brought together Brazil, India, and South Africa, another candidate for a permanent seat at the Security

Council. The inaugural meeting of the new group was held in Brasilia in June 2003. Itamarati[10] has always argued that BRIC should not be limited to just the four countries. They advocated the inclusion of the second-tier giants: South Africa, Argentina, Mexico, Indonesia, Nigeria, and possibly Pakistan. The shared goal would be to put an end to the existing hierarchy in global cooperation structures.

Experts of the Latin America Institute of the Russian Academy of Sciences believe that BRIC is ''a key trend that reflects the transition towards a multipolar world we are going to see by the middle of this century.''[11] They believe that the list of the great powers will also include the United States[12], Canada, and Australia, so BRIC is not being positioned as a rival to the traditional world leaders. But the inclusion of BRIC in the world economy, politics, ideology, and culture will offer alternatives to the Western civilizational models that were formed back in the eighteenth century. These models are no longer up to date with the modern challenges and offer no solutions to global problems. The BRIC countries and the *rising nation-civilizations* share the intuitive need to find an *alternative development model* which would be based on a multi-polar setup in world politics, a well-balanced economy and trade, and attempts to introduce elements of social justice in domestic politics.

In Brazil itself it is no secret that cooperation with countries such as Russia, China, and India is based to a large extent on shared security interests. Speaking in April 2003, Lula's political advisor Marco Aurelio Garcia outlined the reasons why countries such as Brazil and Russia, which are separated by a great distance geographically, are seeking closer ties. He spoke of these two countries' ''shared problems of the transitional period, their vast natural, industrial, scientific and human potential, their ability to resist external dictate better than some other nations, and finally, the fact that Russia, China and India all have modern and well-equipped armies armed with nuclear weapons.'' But could Brazil, with its vast natural resources, growing population, burgeoning economy and impressive technology, remain so poorly armed? Could a country that seeks to become a great power outsource its security to others, just as it had outsourced it in the past to the United States?

This is what the Russian National Security Strategy until 2020 has to say on the matter: ''The long-term focus of international politics will be access to energy resources.... Information will increasingly be used as weapon ... the demographic situation and environmental problems will deteriorate.... Competition for resources might well prod some countries to try to seek military solutions to their problems.'' These ideas are very similar to what is said in the Brazilian NDP document released in 2005. That document also predicts new threats to environmental security and the availability of natural resources. It warns of the impending struggle for ''fresh water resources,[13] for large areas of open seas, for energy and for outer space.'' It also mentions the Amazon region as one of the most desirable prizes for those seeking to grab other countries' natural riches.

The 10 Brazilian states that lie in the basin of the Amazon have an average population density of just 3.35 people per square kilometer. Amazonas, the largest of the 10 states, with an area of 1.567 million square kilometers, holds the planet's largest reserves of fresh water after the Antarctic. Its population density is only 1.79 people per square kilometer. These figures are often used by the media and various think tanks to create the impression that some of the planet's richest areas are ''going to waste.'' In 2006 the British government proposed the creation of an international consortium to manage the Amazon region. The initiative caused a storm of indignation in Brazil. In 2007 ABIN, the Brazilian intelligence agency, published a special report which speculated that, in order to invade Amazonia, the United States might use forward bases set up in the neighboring countries and the existing military bases in Colombia. During a debate in the Brazilian National Congress in September 2004 a member of parliament asked the then defense minister, Jose Viegas, whether the Brazilian armed forces were capable of repelling a putative U.S. military invasion. The minister was forced to answer in the negative. The Brazilian MoD then published alarmist information on its website claiming that the Brazilian Amazon region is facing the threat of internationalization and separation from Brazil; it deserves to be the focus of attention of the Brazilian public.

Speaking of the security interests shared by Russia and Brazil, it is worth noting that in terms of natural resources they are almost completely self-sufficient[14]—which cannot be said about any other country in the world. In this regard the two countries are in the same boat. Both have to prepare themselves for impending attempts at redistribution of global resources.

Russia's Siberia and the polar regions, which are its own equivalent of the Amazon, hold about 11 percent of the planet's fresh water (nine-tenths of it in Lake Baykal and the Siberian rivers). Their population density is about the same as in the Amazon basin. In Sakha Republic (Yakutia) and Krasnoyarsk Territory it ranges from 1 to 10 people per square kilometer. In most of the polar territories it is less than one person per square kilometer. In a book entitled ''The Siberian Burden''[15] [''The Siberian Curse'' in the original English edition], which was translated into Russian in 2007, U.S. authors Fiona Hill and Clifford Gaddy argue that Russia needs to ''shrink.'' Russia ''must contract not its territory but its economic geography,'' the authors explain. The idea, then, is to limit Russia's economic sovereignty over its territories. Hence the argument that the economic rights to their territories should be transferred to the more economically efficient players, such as TNK (a partly Western-owned Russian oil company). Russia, meanwhile, will be left with the right merely to *oversee and supervise*—although it is obvious to everyone that this right will be lost at some point, in the absence of any *real* sovereignty. Speaking of which, let us also recall Madeleine Albright's unfortunate slip of the tongue—the former U.S. Secretary of State once opined that Russia ''has too much territory.''

It is therefore safe to suggest that many of the provisions in Brazil's new National Strategy of Defense (NSD) adopted in December 2008 can be transplanted into Russia's own documents. One just needs to replace the words ''Brazil'' with ''Russia,'' and ''the Amazon'' with ''Siberia.'' ''Brazil will be watchful to the unconditional reaffirmation of its sovereignty upon the Brazilian Amazon region,'' the NSD reads. ''It will repudiate, by means of actions of development and defense, any attempt at external imposition on its decisions regarding the preservation, development and defense of the Amazon region. It will not allow organizations or individuals to serve as instruments for alien interests—political or economic—willing to weaken the Brazilian sovereignty. It is Brazil that takes care of the Brazilian Amazon region, at the service of mankind and at its own service.''[16]

NATIONAL STRATEGY OF DEFENSE

Some of the provisions of the new document deserve more careful study. But let us first look at the history of the Brazilian armed forces.

Until the 1964 coup the Brazilian army was held in great esteem at home after the victories the Brazilian expeditionary force won in Italy in 1944–1945. But then came the long years of military rule, with persecutions against the opponents and restrictions of civil liberties (which, admittedly, were not as severe as in neighboring Argentina or Chile). These oppressions, coupled with the generals' inability to put an end to poverty and backwardness, tarnished the reputation of the Brazilian military. The subsequent return to civilian rule predictably led to the defenestration of the military regime's massive rearmament programs. The country's defense capability was frozen at the level it had reached by the early 1980s. Brazil retained the largest armed forces in South America (about 300,000 people), but by the 1990s it had already begun lagging behind some of its neighbors in terms of defense technology.

During Lula's first presidential term (2003–2007) the government focused almost exclusively on the social and economic component of national security, to the detriment of the military component. The overriding priority of eradicating poverty was allowed to push to the sidelines the other pressing issues, such as the need to update the technology used by the armed forces, and to increase soldiers' pay. During that period Brazil had essentially frozen the rearmament program. The country decided to extend the lifespan of its aged fleet of F-15, Skyhawk, and Mirage-III aircraft, which had entered service some 33 years previously. As for the Navy, the situation could best be described in the worlds of its commander, Admiral Julio Soares de Moura Neto, who said that the country does not have the means to protect its 8,500 km of coastline.[17] Brazilians used to joke at the time that whenever you see a car that is falling apart, you can be sure it belongs to the military. In 2007 Brazil's defense spending was a quarter of Venezuela's, where Hugo Chavez had launched a massive rearmament program.

Two things helped to turn the situation around by the late 2007. First, Lula's poverty eradication program had proved to be a major success, earning him the reputation as the best president the country has ever had by the time he was due to step down in 2010. And second, there were growing fears that Brazil could lose sovereignty of the Amazon region. The first step to address the situation was a long-expected decision by the president to tighten control of airspace over the Amazon. Brazil declared that it reserved the right to shoot down any trespassing aircraft. It made

improvements to the SIVAM monitoring system, which now included the neighboring countries in the Amazon region. Brazil also brought additional specially trained troops to the Amazon jungle. Their tasks included setting up new military-civilian settlements along the perimeter of the rainforest to prevent the infiltration of armed rebels, drug traffickers, and smugglers. The country took measures to prevent environmental degradation of the region, such as banning illegal logging and setting up national parks. It also made an effort to create new jobs in the Amazon region and better integrate the local tribes.[18]

Even more importantly, Brazil decided to abandon its traditional strategy of keeping the defense spending as low as possible, at about 1.5–2 percent of GDP. In late 2007 the government announced a 50 percent increase in the defense budget. It also promised a sharp increase in servicemen's pay and launched an effort to equip the Brazilian armed forces with the latest technology, both home-made and imported. The beefed-up procurement programs included new MLR systems, tanks, and armor, a fifth-generation fighter, a new air transport, unmanned aerial vehicles, a nuclear submarine (to enter service by 2020),[19] missile frigates and escort ships, one or two aircraft carriers (in the longer time frame), new air defense systems, new communication and reconnaissance technology, etc. The national defense strategy was also updated to include some fairly interesting ideas.

The NSD begins on a fairly somber note: ''Intimidation overrides good faith in the world where we live.'' The document says development is inseparable from security, and stresses that protecting the Amazon region is crucially important for sustainable development. Defense priorities now include the *Blue Amazon*, the Brazilian territorial waters and an exclusive economic zone in the South Atlantic stretching from the city of Santos in the south to Vitoria in the north. This is where Petrobras, the Brazilian oil giant, drills for offshore oil.

How, then, does Brazil intend to defend these key regions? Following the publication of the NSD, foreign observers immediately homed in on the following passage: ''Brazil is committed—as per the Federal Constitution and the Treaty on the Non-Proliferation of Nuclear Weapons[20]—to the strictly peaceful use of nuclear energy. However, Brazil also asserts its strategic need to develop and master nuclear technology.'' A separate chapter of the document declared the intention to ''Increase the capacity to use nuclear power for a broad range of activities.'' The NSD also makes clear that Brazil will not join the Additional Protocol and the Safeguards Agreement with the IAEA, which give the agency greater verification powers, until the nuclear powers implement the key requirement of the NPT: to make substantial progress towards nuclear disarmament. Let us recall that Brazil had developed the complete nuclear fuel cycle technology by 1987. Since then it has been actively pursuing the so-called *parallel nuclear program* at its IPEN facility (Institute of Nuclear Research). According to the Folha de Sao Paolo newspaper, after upgrading the Alvaro Alberto uranium enrichment facility in Aramar (Sao Paolo state) in 1989, Brazil acquired the ability to enrich uranium to 39 percent of U-235, which is sufficient to make a nuclear device.[21] The program, in which the Brazilian military played an important role, continued until 1990, when President Fernando Collor de Mello held a special ceremony to close a secret mine in the town of Cachimbo (Para State) which had already been prepared for a nuclear test.

After the American invasion of Iraq in 2003 Brazil tightened restrictions on the work of IAEA inspectors at the Alvaro Alberto enrichment facility. In April 2004 the IAEA lost its unrestricted access to the new enrichment plant in the town of Resende near Rio de Janeiro. The Brazilian government made it clear that it will not sign the Additional Protocol, which would require the country to open all of its nuclear facilities for inspections.[22] Suspicions were further raised in 2007 when Deputy Defense Minister Jose Benedito de Barros Moreira questioned the rationality of maintaining non-nuclear-weapon status. Two years later Vice-President Jose Alencar stoked the controversy by declaring that a country with 15,000 km of borders and rich offshore oil reserves could use nuclear weapons as an instrument of deterrence. However, it remains unlikely that Brazil will test a nuclear device in the next few years (at least until the Rio Olympics in 2016).

Meanwhile, the term ''unconventional forces'' used in the NSD seems, so far, to mean only one thing. In the event of an invasion into the Amazon region of a ''military enemy with a far superior power'' or a hostile coalition, Brazil will wage ''asymmetrical war'' in the Amazon jungle using specially trained troops and organize ''mass resistance.''

Judging from the measures being taken in recent years, Brazil is now building a line of defense in the north of the Amazon region for just such purposes. It is expected to follow the Belen–Santarem–Manaus–Tefe–Tabatinga (Esperanza) line, just south of the main channel of

the Amazon river. Along this line the country is now building numerous infrastructure facilities, including new docks, shipyards, and landing strips capable of receiving large transports. It is also equipping new forward bases that will host army garrisons and special force units trained in jungle warfare. The NSD document also stipulates the creation of special police squads with military training, which can join the army in the event of an attack in order to protect their territory.

Plans are proceeding apace to improve the economy in the Amazon region by building strategic roads linking the rich center and southeast of the country with the poor northern and northwestern provinces. These roads will also speed up troop movement into the Amazon region. The most important strategic routes are Cuiaba–Santarem (BR-163 highway), Campo Grande–Porto Velho and Brasilia–Belen, which connect the north and the south of this huge country. The extension of the highway between Brasilia and Belen, the second-largest town of the Amazon region, all the way to Boa Vista, close to the Venezuelan border in Roraima state, makes this road one of the longest in the world. It connects the Brazilian heartlands with the remotest parts of the Amazon jungle. The government is also restoring the old waterways and building new channels linking the country's numerous rivers, including Parana–Tiete, Tocantins–Araguaia and Tapajos–Teles Pires. In the great estuary of the Amazon river the government is planning to build a large military base that would be comparable in terms of its size and technical infrastructure to the base in Rio de Janeiro.

It appears that in the worst-case scenario (invasion by a massively superior force) the strategy will be to let the aggressor wade into the inhospitable jungle north of the Amazon river, in the states of Amapa, Roraima, and Amazonas, and then hold the defenses along the fortified lines on the south bank of the river. The Brazilians would then rely on the jungle to persuade the enemy that invading was not such a good idea. The country's army and irregular troops would harass the enemy's forces before driving them out at the final stages of the conflict. But this strategy, which was adopted in the first edition of the NSD in 1996, came under closer scrutiny after NATO's bombings of Yugoslavia and the US invasion of Afghanistan and Iraq. As one expert put it, ''it is very unlikely that a first-rate military power would willingly run all the risks of entering the Amazon jungle when it can simply strike our cities and industrial facilities from the air with impunity.''[23]

The measures proposed in the NSD to counter that particular threat can be considered truly revolutionary, considering the parsimonious nature of the previous Brazilian military doctrines. The idea is not just to buy all the latest weaponry from abroad, but gradually to develop Brazil's own defense industry and research capability, until the need for imports can be reduced to a minimum. The NSD highlights three strategic sectors: cybernetics, space,[24] and nuclear.[25]

In addition to acquiring all the latest weaponry by 2020–2025, Brazil is also planning to take a number of other steps. To begin with, it intends to relocate the research and manufacturing facilities of Embraer, the country's leading aerospace company, away from their current base in the town of Sao Jose dos Campos near Sao Paolo. Up until now, the company has reaped nothing but benefits from proximity to the country's intellectual centers, the universities of Sao Paolo and Campinas. But now such proximity is being seen as dangerous. The NSD says Brazil should seek to end its dependence on the GPS navigation system ''and other such foreign systems.'' The country has also moved the development of new air defense weaponry up the list of its priorities. It aims to equip its air and space defense system, the SISDESBRA, with electronic surveillance systems feeding information to surface-to-air missile batteries. It also wants to acquire geostationary spy satellites, unmanned aerial vehicles, and domestically made reconnaissance planes. In the event of an armed conflict the Brazilian Air Force will aim to achieve local air superiority using high-precision weapons.

Under its new strategic concept Brazil has fully transitioned to a brigade structure of the army, which will now have rapid reaction forces capable of quickly deploying in even the most inaccessible parts of the country using ''new domestically made air transports.'' The Higher Military School, the brain of the Brazilian army, will be relocated from Rio de Janeiro to Brasilia. All the previous proposals concerning ending conscription in favor of professional service, as well as allowing women and sexual minorities to serve in the armed forces, have now been abandoned. In another step that demonstrates the seriousness of the government's intentions regarding the army and its concerns about the international situation, in April 2010 the president announced the creation of the General Staff of the armed forces. The question now is, can Brazil really pull off this ambitious program, and what role can Russia play in its implementation?

Brazil's economy is growing at a rapid pace. The country's oil revenues are growing, and its currency reserves are on the rise.[26] Its plans to create a modern army by 2025 therefore seem entirely realistic.

For a period in the early 1980s Brazil was in the top 10 of the world's leading arms exporters, selling armor, MLR systems, and light subsonic ground-attack aircraft to Africa and the Middle East. Brazilian hardware was reliable and easy to use, making it competitive with the offerings of the leading Western defense companies. Upgraded weaponry made by Embraer, Engesa, Avibras, and other Brazilian firms still remains popular in some markets.[27] The experience of the 1980s, coupled with the new strength of the Brazilian economy and its R&D potential, can bring the desired results, provided that the country pursues defense industry cooperation with the world leaders in this field.

Given the scale of Brazil's rearmament plans it is important to make sure that all the new equipment that will be delivered to its armed forces is compatible and mutually complementary. The country would do well to think about choosing one or maybe two main partners which could offer a wide range of products and cooperation modes rather than one-off weapons sales. According to the NSD document, in its relations with foreign defense companies Brazil ''aims to be a partner rather than a mere buyer or customer.'' The long-term objective of such a partnership, the document says, is for Brazil to achieve technological independence.

STREGIC PARTNERSHIP AND CONCLUSIONS RUSSIA SHOULD DRAW

The one country that has so far established itself as Brazil's strategic and long-term defense cooperation partner is France. In 2005, during the presidency of Jacques Chirac, the two countries signed an agreement on cooperation in the development of advanced technologies. Based on that document, in January 2007 they signed an agreement on cooperation in developing military aviation technologies. And in early 2008 France and Brazil signed a wide-ranging agreement on military cooperation. One of the first tangible outcomes of these deals has been the contract to supply the French Rafale-F3 multirole fighters to the Brazilian Air Force. Information about this contract has been confirmed by Presidents Lula da Silva and Nicolas Sarkozy. In late 2008 the two countries also signed a contract on France's participation in the construction of Brazil's first nuclear submarine. The contract states that Brazil, which can enrich uranium for the nuclear fuel at its own nuclear facilities, needs only the technologies that can ''guarantee hull integrity at high depths.''[28] The protocol on establishing strategic partnership, which was signed on December 23, 2008, also included other areas of cooperation worth a total of 12 billion dollars. These include the construction of four diesel-electric submarines, the delivery of 50 EC-725 helicopters, partnership on the joint Future Infantry Soldier program, greater cooperation on geostationary communication, navigation, and weather satellites, etc. The document also outlines cooperation in the nuclear and space sectors, joint efforts on climate change and sustainable development, etc. The political section of the protocol states that Brazil and France hold similar views on the key international issues; both are committed to the idea of a multipolar world and agree on the need to enlarge the G8 club by including the emerging powers. France also backs Brazil's bid to become a permanent member of the UN Security Council.

Russia's own defense industry cooperation with Brazil pales in comparison with the French–Brazilian ties, despite all the agreements signed and the upbeat declarations made by the visiting officials.[29] The main reason for that is Russia's refusal to transfer a number of advanced technologies to Brazil. The decision is especially questionable when one takes into account the superiority of many Russian weapons systems over the Western competition. When Russia was bidding for the Brazilian Air Force contract along with the French, U.S., and Swedish suppliers, reports in the Brazilian media and on the Brazilian MoD website (defesa.br) were very encouraging. They pointed out that the Russian Su-35 fighter had one very important advantage over the Rafale, which the Brazilians eventually chose: it had a much longer range. The Shkval rocket-propelled torpedo also had very good chances of being chosen as the main weapon of the Brazilian submarine fleet.[30] Why then all the near-misses? Why are the Brazilian weapons contracts won by the Russian suppliers so few and far between, especially compared with our weapons sales to countries such as Venezuela?[31] Why are we so determined to stick to the old ''buyer and seller'' model of relations and to turn down promising opportunities for cooperation in joint design, development, and manufacture of weapons, licensing arrangements, and partnership in selling weapons to third countries? Because of this obstinacy Russia is losing the chance

to establish itself in a very promising new market. Also, let us not forget a shared problem which both Russia and Brazil may have to contend with in the coming decades: other countries may well be eyeing our resource-rich but sparsely populated territories. So why not bring defense industry cooperation with Brazil to the same level of strategic partnership that we now enjoy with another BRIC member, India?

Any possible fears regarding the nascent Brazilian militarism are grossly misplaced. Throughout its nearly 200 years of independent history Brazil has always sought to achieve its goals by peaceful means only. Its current defense programs stem from one simple truth: the existence of a big and rich but poorly armed country is a danger not just to that country itself but also to its neighbors and the entire international community. Such a country would always be a tempting target for those seeking to grab its resources. Brazil's National Strategy of Defense states that the country will continue to seek national security through development, deeper integration with its Latin American neighbors,[32] and a stronger international system. Unlike nations such as Venezuela, Brazil does not have any serious disputes with its neighbors. As a democracy, it is not vulnerable to any dangerous ideologies and does not seek to strengthen its informal leadership in the region though the use of force. It has always relied on soft power to secure its leadership. It is not about to squander that soft power on reckless gambles.

NOTES

[1] O Relatório da CIA. Como será o mundo em 2020. Rio de Janeiro, 2007, pp. 81–83.

[2] ''Dreaming with BRICs: The Path to 2050,'' global economics paper No. 99, <http://www2.goldmansachs.com/ideas/brics/brics-dream.html>, last accessed October 15, 2010.

[3] J. Santiso, ''Brasil: Una Potencia del presente,'' <http://www.infolatam.com/2010/09/29brasil-una-potencia-del-presente/print/>, last accessed October 15, 2010.

[4] A sub-regional group comprising Brazil, Argentina, Uruguay and Paraguay.

[5] ''Brasil 1996: La política de defensa nacional—Paz y Seguridad en las Americas,'' FLACSO, Santiago de Chile, 1996, No. 10, pp. 5–6.

[6] Boris Martynov, ''*The Golden Chancellor''. Baron de Rio Branco—The Greatest Diplomat of Latin America* (Moscow, 2004).

[7] *Correio Brasiliense*, December 6, 1993.

[8] *A Política Externa do Brasil* (Brasília, 2003), pp. 7–24.

[9] Paises—baleias (whale countries)—a term often used in Brazil for China, India, and Russia.

[10] Unofficial name of the Brazilian Foreign Ministry.

[11] V.M. Davydov and A.V. Bobrovnikov, *The Role of the Emerging Giants in World Economy and Politics (Brazil's and Mexico's Chances in the Global Dimension)* (Moscow, 2009).

[12] During her visit to Brazil in April 2005 the then U.S. Secretary of State, Condoleezza Rice, proposed the idea of creating a community of great multiethnic democracies that would include the United States, Brazil, India, and South Africa. The idea was seen in Brazil as a rival concept to BRIC and received lukewarm support.

[13] Russia and Brazil hold the world's largest reserves of fresh water. Scientists say the world will face a shortage of fresh water starting from the 2030s, making it a subject of global competition.

[14] The discovery of large offshore oil reserves off the coast of Rio de Janeiro state will make Brazil self-sufficient in terms of production of hydrocarbons. The country hopes to become one of the leading exporters of hydrocarbons by 2020.

[15] F. Hill and C. Gaddy, The *Siberian Burden: Miscalculations of Soviet Planning and Russia's Future* (Moscow, 2007), p. 237.

[16] *National Strategy of Defence* (Brasília, 2008), pp. 14–15.

[17] ''Commanders Respond: Admiral Julio Soares de Moura Neto. U.S. Naval Institute,'' <http://www.usni.org/magazines/proceedings/2009-03/commanders-respond>, last accessed December 15, 2010.

[18] See: Boris Martin, *Brazil—a Giant in a Globalizing World* (Moscow, 2008), pp. 211–259.

[19] Independent experts believe that in order to ensure the security of its Atlantic coast and of the oil platforms in the northeast, Brazil may need at least six nuclear submarines. *Informe Brasil*, September 27–29, 2008.

[20] Brazil joined the NPT in 1998, 30 years after it was opened for signature.

[21] *Folha de São Paolo*, June 5, 1990.

[22] The reason for that was Brazil's suspicion that IAEA inspectors were trying to steal Brazilian know-how in order to pass it on to competitors. At present the country has two nuclear power plants (Angra I and Angra II) and is planning to launch a third. Brazil intends to build a whole series of nuclear power plants in order to end its dependence on hydroelectric energy, which accounts for 71 percent of the country's electricity production.

[23] H.L. Saint-Pierre, *La Defensa en la Política Exterior del Brasil: El ConsejoSuramericano y la Estrategia Nacional de Defensa* (Madrid, Real Instituto Elcano), DT 50/2009-07/10/2009.

[24] ''The development of launching-vehicle technologies will serve as a broad instrument, not only to support the space programs, but also to develop national missile design and manufacturing technologies'' (*National Strategy of Defense*, p. 32). In 2005 the AEB, the Brazilian space agency, adopted a long-term program until 2014. Its priorities include improving the VLS carrier for space launches from the space centers in Alcantara and Barreira do Inferno, developing satellite systems, and building a sea platform for space launches. See: *PNAE. Programa Nacional de Atividades Espaciais 2005–2014* (Brasília, 2005), pp. 19–20.

[25] *National Strategy of Defence*, p. 12.

[26] According to preliminary estimates, Brazil could be on par with Venezuela in terms of oil exports by 2020, and with Iran by 2025.

[27] The Super Tucano ground attack aircraft developed by Embraer has been sold to Columbia, Chile, the Dominican Republic, and Ecuador. Afghanistan and Iraq have also shown interest. The Pentagon plans to buy 200 Super Tucanos for the U.S. Navy. Astros-II MLR systems made by Avibras are used by Saudi Arabia, Libya, and Iraq. The company also plans to supply these systems to Malaysia.

[28] In 2005 the first diesel-electric submarine built in Brazil was launched at the AMRJ shipyard in Rio, the oldest in Latin America. The sub was designed in cooperation with Western Germany.

[29] Agreement on Cooperation in Peaceful Use of Nuclear Energy (1994), Agreement on Cooperation in Science and Technology (1997), Agreement on Cooperation in Peaceful Space Exploration (1997), Agreement on Partnership Relations Between Russia and Brazil (2000), Joint Declaration on forming a ''technology alliance'', Russian-Brazilian Agreement on Military and Technical Cooperation (2008).

[30] A. Pereira, ''A Raposa e o corvo,'' *Folha de São Paolo*, October 14, 2009.

[31] In 1994 Brazil bought its first batch of the Russian Igla SAM systems (40 units). In 2006 it signed a contract for four Russian Mi-26 helicopters and several Mi-35 and Mi-17 attack helicopters to be used in the country's efforts against illegal logging, drugs trafficking, and smuggling in the Amazon region.

[32] One of the country's key achievements here was the creation in 2008 of the 11-member South American Community of Nations (SACN) and the South American Defense Council, a consultative body for regional security set up in 2009 under the SACN.

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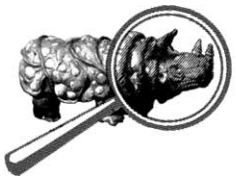

Svetlana Klyuchanskaya

RUSSIA AND SOUTHEAST ASIA: COOPERATION IN STRATEGIC AREAS

The countries of Southeast Asia, with a combined population of over 590 million people, GDP of $1.491 trillion, foreign trade turnover of $1.521 trillion[1] and higher-than-average economic growth figures, are becoming a center of integration processes in the Asia-Pacific and play a leading role in the new balance of forces being formed in the region.[2] It is therefore entirely reasonable that Russia should shift the focus of its foreign policy towards these countries[3]—especially in strategic areas such as defense industry cooperation, nuclear energy, space, and nanotechnologies.[4]

This article reviews the current state and prospects for cooperation between Russia and Southeast Asian nations in military technology, space, and nanotechnologies.[5]

DEFENSE INDUSTRY COOPERATION

Over the past several decades Asia has been at the center of Russia's defense industry cooperation priorities. Moscow's strategic partners in the Asia-Pacific are India and China. Sometimes these two important relationships overshadow Russia's ties with other partners in the region, which are equally as valuable. Nevertheless, starting from 2003 Southeast Asia had become one of the key destinations for Russian arms exports. Three countries in particular—Malaysia, Indonesia, and Vietnam—account for the bulk of the Russian defense contracts signed over that period. The combined value of identified arms contracts signed with these three countries since 2003 is over $1.6 billion, which is higher even than the combined figures for India and China.[6]

Of course, the two Asian giants still remain Russia's main strategic partners. Weapons sales to Beijing and Delhi have traditionally been a source of steady growth in Russian arms sales. But it must be taken into account that the opportunities for weapons exports to the two countries are not limitless.[7] In view of that trend, the focus of Russia's defense industry cooperation priorities is gradually shifting towards Southeast Asia. Rapid economic growth and increasing defense spending make the region a very attractive and promising destination for Russian weapons exports.

Growing defense spending in Southeast Asia can be attributed to several factors. The first is China. Many Southeast Asian nations are worried by Beijing's growing military might. The reasons for these concerns lie in the nature of these nations' relations with China over the past decades. Tensions were fuelled by a statement by Jiang Zemin made on November 2002 at the 16th Chinese Communist Party Congress. The Chinese leader said that ''harmonious economic development is linked to modernization of national defense and the national army; in the coming years China will prioritize active defense in its military-strategic plans and improve its ability to wage war using high-tech weapons.'' China's neighbors were also alarmed by the 9.6 percent increase in Chinese defense spending in 2003. The last straw was China's announcement that it was going to build a powerful navy and expand the borders of its maritime zone of responsibility. All these steps could not fail to alarm the nations which have unresolved territorial disputes with China in the South China Sea.

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The second factor is piracy. The Strait of Malacca and the South China Sea comprise one of the hotspots of pirate attacks on commercial shipping. The situation there was especially worrying about a decade ago. There has been a certain improvement since then, and the focus has shifted to Somalia—but the piracy problem in the region still remains.

The third factor is terrorism. Several countries in the region, including Indonesia, Malaysia, Singapore, and the Philippines, have been affected by international terrorism. They are now working hard to counter terrorist activity in the region.

The offers Russia can make, in terms of the technical characteristics of its military hardware, are still attractive to countries that have not yet reached the technological level of India or China. Russian weapons are popular in many countries across the globe thanks to their good combat capabilities, long service life, and ease of use. In these areas Russia has managed to retain its leading positions.

Meanwhile, the experience Russia has gained thanks to cooperation with China and India has become a competitive advantage in the struggle for Southeast Asian arms markets.

Another competitive advantage that makes Russian weapons more attractive to countries in the region is that Moscow often sweetens the deal for buyers by offering them low-interest financing. That is an especially important factor in the fiercely competitive Southeast Asian arms market.

Countries in the region can be grouped into two blocks. The first includes the regional leaders in terms of cooperation with Russia, such as Malaysia, Indonesia, and Vietnam. In the second group are Burma, Brunei, and Thailand. Cooperation with them is at the early stages—but the prospects here are very promising.

MALAYSIA

Military cooperation between Russia and Malaysia goes back to the early 1990s. The country is now one of Russia's leading partners in Southeast Asia. First military contacts were established in 1993, when a number of bilateral agreements were signed. On June 7, 1994 Russia was awarded a contract to supply 18 upgraded MiG-29SD[8] fighters and two MiG-29UB trainer jets for the Malaysian Air Force.[9] The value of the contract was close to $600 million (of which $220 million was to be offset, including $150 million through barter schemes). All the deliveries under the contract were made in 1995. The aircraft supplied under the contract were given special designations as MiG-29N and MiG-29NUB. As part of the deal, in 1997 Russia and Malaysia set up the Aerospace Technology System Corporation (ATSC) joint venture tasked with the repair and maintenance of the Malaysian MiG-29 jets. The Malaysian contract is considered to have been

Figure 1. **Main Categories of Russian Military and High-Tech Exports to Southeast Asia**

one of the largest international deals signed by MiG and the Russian defense industry as a whole in the mid-1990s.[10]

Another milestone was the signing in 1999 of a Russian–Malaysian memorandum of understanding on defense industry cooperation. The two sides set up a bilateral government commission that same year. Also in 1999 the Kazan helicopter plant delivered two Mi-17-1V multirole helicopters on a Malaysian contract.

In June 2001 Russia won a Malaysian order for Metis-M anti-tank missile systems. In 2002 Malaysia bought a large batch of AK-101 assault rifles, and signed a $48 million contract with Rosoboronexport for Igla MANPAD systems.

In 2003 Russia and Malaysia signed a contract for 12 Mi-171Sh helicopters—10 for the Malaysian Defense Ministry and another two for the police. The $71 million deal was signed at the LIMA 2003 International Maritime and Aerospace Exhibition in Langkawi. All the deliveries on the contract were completed in 2005. During Russian President Vladimir Putin's visit to Malaysia in August 2003 Rosoboronexport and the Malaysian Defense Ministry signed a $900 million contract for 18 Su-30MKM aircraft. Russia agreed to accept 30 percent of the payment in palm oil. Last deliveries of the Sukhoi jets were made in August 2009. They were supposed gradually to replace Malaysia's ageing F-5E fighters, which had been in service for two decades, and bolster the existing fleet of the 18 MiG-29N jets.

In 2009 there came reports that over the course of 2010 Malaysia intended to decommission and then sell 10 of the 16 MiG-29N aircraft supplied by Russia in 1995. The reason for that decision was high operational costs, to the tune of $5 million per aircraft every year. Malaysia bought these jets relatively cheaply. According to Alexander Fomin, first deputy head of the Federal Service for Military and Technical Cooperation, part of the payment was made in the form of palm oil, natural rubber, and some other goods. But operating the jets proved to be more expensive than the Malaysians had expected. However, due to the effects of the world economic crisis, in 2010 the plans to decommission the Russian jets were scrapped. The country also postponed the announcement of the contract for new fighters to replace its ageing fleet of MiG-29 aircraft.

Meanwhile, Russia hopes to win two other Malaysian contracts that should be announced shortly. One is for 12 military search-and-rescue helicopters. The contract was previously awarded to Eurocopter, which had offered its EC-725 model. In September 2008 the Malaysian government signed a letter of commitment to purchase 12 such helicopters worth $477 million. But the deal was later put on hold after accusations of irregularities during the bidding process. The choice in favor of Eurocopter had probably been made because the company has a division in Malaysia, and uses Malaysian companies as subcontractors. Other bidders included Sikorsky with its S-92 model, and Rosoboronexport with the Mi-17-1V. Now that the contract is up for grabs once again, the Russian company has a chance to address all the weaknesses of its previous bid and secure more Malaysian custom.

According to a report by Flightglobal, in 2010 the Malaysian MoD issued a request for information about fighter aircraft ahead of announcing new contracts to be signed in 2011–2015. The contracts are part of the Malaysian military modernization program for the same period. According to Rosoboronexport, Russia will offer its Su-30 fighter. Malaysia, meanwhile, has also expressed interest in the Boeing F/A-18E/F Super Hornet, the Lockheed Martin F-16 Fighting Falcon. and Sweden's Saab JAS 39 Gripen. Boeing and Rosoboronexport are reckoned the most likely winners because the Malaysians already have already dealt with the U.S. and Russian aerospace manufacturers in the past. The country's Air Force has a fleet of F/A-18D Hornet fighters bought in the 1990s and 18 Su-30MKM jets delivered in 2003. It now plans to buy 36–40 fighter jets to replace the ageing Northrop Grumman F-5 aircraft.[11]

The history of Russian military cooperation with Malaysia goes back a long time, compared with relations with other countries in Southeast Asia. According to the Malaysian defense minister, Ahmad Zahid Hamidi, at this stage of cooperation the country is interested in mutual technology exchange. ''We are no longer interested in purely buyer–seller type relations,'' the minister said. ''We are now doing everything we can to develop cooperation with Russia in terms of setting up aircraft service and maintenance centers in Malaysia.''[12]

Nevertheless, Russian–Malaysian relations have lately been facing difficulties. These are related primarily to the old problem of Russian military exports, that is, the lack of service and

maintenance infrastructure. This is increasingly leading Russia's traditional customers to seek other suppliers. China is often making use of the situation. One example is the recent statement by the commander of the Malaysian Air Force, Gen Daud, who said that the country could buy spare parts for its fleet of Russian-made fighter jets from China.[13]

INDONESIA

Russia won its first big Indonesian contract in 1997 with the Su-30 fighter jet. The deal subsequently fell through because of a severe financial crisis in Indonesia—but it can be viewed as the starting point of Russian–Indonesian defense industry cooperation.

Indonesia turned to Russia once again after the United States, which was its main weapons supplier in the late 1990s, imposed an arms embargo on Jakarta over allegations of human rights abuses in East Timor in 1999.

Thanks in part to that embargo, in 2001 the Indonesian Air Force once again expressed interest in buying a squadron of the Russian multirole Su-30 fighter-bombers. According to the Indonesian Air Force chief, Hanafie Asnan, buying the Russian jets would be part of a strategy to diversify the country's arms supplies and reduce its dependence on the United States.

Apart from fighter jets, which have traditionally been one of the mainstays of Russian defense exports, Indonesia also expressed interest in Russian naval weaponry. The structure of Russian arms exports to Indonesia is therefore quite different from exports to Malaysia, which are dominated by aerospace produce. In April 2003 Indonesian officials discussed with Rosoboronexport the purchase of warships made by the Almaz shipyards in St Petersburg. Jakarta expressed particular interest in the Zubr class air-cushioned landing craft, patrol ships, and hovercraft. It also placed an order for several Project 20382 Tigr corvettes and Project 12300 Scorpion missile boats.

In June 2007 Rosoboronexport and the Indonesian Navy signed a framework contract for two corvettes. Under the terms of the deal, the hulls based on the Russian Project 20382 Steregushchiy design were to be built in Spain and then fitted out with Russian systems and weaponry in St Petersburg. In September 2007 it was announced that another Indonesian contract for two Russian Kilo-class submarines was in the pipeline. But in the summer of 2009 the Indonesian MoD announced that the purchase of the subs had been postponed until 2011 due to financial constraints.[14]

Indonesia's defense spending stood at $3.2 billion in 2009, which was just 0.68 percent of the country's GDP, a record low among the Southeast Asian nations. The figure was due to rise by $1 billion in 2010 to $4.2 billion, which is equivalent to one percent of GDP. Nevertheless, the Indonesian 2010 defense budget does not include any financing for the recently announced defense procurement programs, including the submarines.

During the MAKS-2007 Airshow in Moscow, Rosoboronexport signed a protocol which gave the go-ahead to commencing deliveries on a previously signed $240 million Indonesian contract for Sukhoi jets. Three Su-27SKM and another three Su-30MK2 were to be delivered in 2008–2010. Two of the Su-30MK2 aircraft were delivered in 2008[15] and another one in 2009.[16]

A Russian–Indonesian memorandum of understanding on facilitating the program of military and technical cooperation in 2006–2010 has played an important role in bilateral relations. The program included the delivery of 10 Mi-17 transport helicopters, five Mi-35P attack helicopters and 20 BMP-3F infantry fighting vehicles.[17] These sales were made possible thanks to a 15-year $1 billion Russian loan given to Indonesia during President Vladimir Putin's visit to Jakarta on September 6, 2007.[18]

The world economic crisis has had a serious impact on Russian–Indonesian defense industry cooperation. But experts predict that the world economy will recover much quicker than previously thought. As a result, a number of deals, including the submarine contract, could be signed as early as 2011.

VIETNAM

Defense industry cooperation between Russia and Vietnam goes back to 1953. And a new page in this was turned in 1998, when the two governments signed a bilateral agreement on military and technical cooperation. In 1999 they also set up an intergovernmental commission to facilitate contacts in this area.

The planning of Russian–Vietnamese military cooperation is based on a special program covering the period 2005–2010, plus a series of annual programs. In October 2008, during a visit by Vietnamese President Nguyen Mingh Triet to Moscow, the two countries also signed a Memorandum on the strategy of military and technical cooperation until 2020.[19]

Until recently Russian weapons sales to Vietnam were dwarfed by the size of Malaysian and Indonesian contracts. But since 2008 they have been growing very rapidly. According to the Russian MoD, Vietnam is now Moscow's biggest defense customer in Southeast Asia, and one of the biggest in the Asia-Pacific, second only to India and China.[20]

According to MoD data, the value of arms contracts signed with Vietnam rose to a record $1 billion in 2008. In 2009 it jumped to $3.5 billion, and reached $1 billion in the first quarter of 2010. The customers include the Vietnamese Air Force, Air Defense, and Navy.[21]

In January 2009 Rosoboronexport won a $500 million Vietnamese contract for eight Su-30MK2 fighter jets.[22]

Also on Vietnam's shopping list were Molniya-class missile boats, Gepard-class frigates and six Project 636 (Kilo-class) submarines. In addition to supplying the submarines, Russia will also build the coastal infrastructure for them. The two countries already have successful experience of naval contracts. In 2002 the Almaz shipyards built two Project 10412 Svetlyak patrol boats for Vietnam. The Vietnamese Navy recently placed an order for another two. They were laid down in June 2009;[23] both were due to be completed before the end of 2010.[24]

According to Russian Defense Minister Anatoliy Serdyukov, the two countries are discussing more contracts for the 2020 timeframe. During the minister's visit to Hanoi on March 22–24, 2010 the Vietnamese side expressed interest in deliveries of spare parts and components for its Soviet weaponry. Vietnam is also very interested in Russian air defense systems. ''They are interested in almost everything we have, including the Tor, Buk and S-300 SAM missile systems,'' Minister Serdyukov said.[25]

Over the past two years Vietnam has become one of Russia's biggest defense customers. Following the talks in March 2010 it is safe to say that military and technical cooperation between the two countries still has a lot of room for growth. Russia has received an offer to take part in building a ship repair plant with a dry dock in Vietnam. The plant could service not just Vietnamese navy ships but Russian ones as well. According to Minister Serdyukov, the Vietnamese Navy will also need rescue and supply ships. ''We are also ready to help our Vietnamese colleagues in developing their naval aviation capability,'' the minister said.[26]

BURMA

Burma is set apart from Russia's other defense customers in Southeast Asia by the sanctions imposed on it by the United States and Western Europe over human rights violations. Western rights groups accuse the Burmese military regime of mass persecutions against the opposition and ordinary people. Russia's military cooperation with Burma is therefore criticized in the West. Moscow is accused of being politically indiscriminate in choosing its partners and not stopping at anything in order to grab a share of the region's arms market.

Nevertheless, and despite these criticisms, Russia is determined to strengthen its position in Burma, where only China poses a serious threat as a competitor.

In 2001 Russia sold Burma four MiG-29 fighters, and another 10 in 2002. In October 2006 the MiG corporation opened an office in Burma. In 2007 Russia reported to the UN that it had supplied 100 large-caliber artillery systems to Burma in 2006.[27]

In late December 2009 Rosoboronexport and Burma signed a contract for 20 MiG-29 fighters. Russia's main rival for the contract was China, which offered its latest J-10 and FC-1 fighter jets (the Chinese equivalents of the Russian Su-27 and MiG-29 models) on very attractive terms.[28] It was said that Burma chose the significantly more expensive Russian offer because the Chinese aircraft are less reliable. The value of the contract, as reported in the Russian media, is about $560 million.[29] The figures reported by foreign news agencies range from $570 million[30] to $804.8 million.[31] Official confirmation of the contract by Rosoboronexport came only in January 2010.[32]

BRUNEI

This is potentially a very promising market for Russian weapons. No contracts have been signed as yet, but Rosoboronexport has been working hard to win a share of the Brunei defense market.

Contacts in this area between the two countries began in May 2005, when the Defense Ministry of Brunei invited Rosoboronexport to hold a presentation in Bandar Seri Begawan of Russian air defense systems, combat aircraft, attack and transport helicopters, naval equipment, and other weaponry. During an official visit by the Sultan of Brunei to Russia in June 2005 he also attended a presentation of aviation equipment and special-purpose firearms. In July 2006 a Rosoboronexport delegation at the Farnborough Airshow held talks with the Deputy Defense Minister of Brunei, Dato Yasmin Umar, the permanent secretary of the MoD, and the commander of the country's Air Force.

According to the ARMS-TASS news agency, Brunei ranks 54th in the world rating of arms importers for the period 2000–2007, with $826 million worth of imports.

In 2009 Russian President Dmitry Medvedev held a meeting with the Sultan of Brunei, Hassanal Bolkiah. Military and technical cooperation was discussed at the talks as one of the most promising areas of cooperation. The Sultan visited the headquarters of Rosoboronexport and met the company's deputy director general, Viktor Komardin. The Brunei delegation attended a presentation of Russian air defense systems. At one of the airfields near Moscow it held technical consultations and attended a demonstration of the Ka-52 helicopter. At the request of the delegation from Brunei the Russian hosts also arranged a visit to a Spetsnaz training center. The two sides said that upon the conclusion of the talks they would sign a bilateral agreement on defense industry cooperation.

THAILAND

Thailand is another promising market, though no deals have been signed as yet. The two sides have expressed interest in cooperation, and specific arms contracts have been discussed, but there have been no practical results so far.

According to ARMS-TASS, in November 2008 the Army asked the Thai government to authorize the purchase of three Russian Mi-17V-5 helicopters. The first time Russia offered its Mi-17 helicopters to Thailand was back in 2005. But due to the growing costs of the repair and upgrade of its fleet of U.S.-made UH-1H (Bell-212) helicopters, Thailand gave the go-ahead to the contract only in late 2008. The deal is based on a bilateral agreement signed in August 2005 under which Russia agreed to deliver three to six helicopters to offset a $36 million debt.[33] The estimated value of the Mi-17V-5 contract is $28 million. If it goes ahead as planned, it will be the first purchase of Russian helicopters by the Thai Army, which has so far operated only American-made helicopters.

To summarize, the first group of three Southeast Asian nations, which includes Malaysia, Indonesia, and Vietnam, already has a long history of arms contracts with Russia. Sales to Russia's two biggest defense customers, India[34] and China,[35] have been falling in recent years, but the Southeast Asian deals have picked up the slack. The second group of three is made of Burma, Brunei, and Thailand. Burma has already bought some Russian weaponry, but a lot still

needs to be done to secure the Russian presence on its defense market. In the other two markets Russia has yet to carve out a niche for its weapons.

To make further inroads on the region's defense markets, Russia will have to see off stiff competition from China and the United States. Both of them have their strengths and weaknesses.

The United States is traditionally seen by a number of countries in the region, including the Philippines, Thailand, and Singapore, as a guarantor of stability and a counterbalance to China. But American influence in Southeast Asia has been in decline during the past decade. Reasons for this include the stalled U.S. campaigns in Afghanistan and Iraq. In addition, after several crises in the late 1990s (East Timor and the Asian economic crisis) a number of countries in the region, such as Malaysia and Indonesia, are trying to diversify their arms imports and reduce their dependence on U.S. suppliers. Russia should make use of the situation and step in to fill the void before China does.

As for China itself, the partnership relations which Moscow and Beijing have been developing over the past decade can actually help Russia strengthen its position in Southeast Asia. The Kremlin can capitalize on fears of Chinese dominance felt by some of the region's governments, and make use of its existing contacts to offer the Southeast Asian countries closer cooperation. That is especially true for sensitive areas such as arms supplies, where these countries see any further strengthening of Chinese influence as unacceptable.

Russia, meanwhile, has obvious strengths as an arms supplier—but it also has some weaknesses. With their bulging export portfolios, the Russian defense contractors have very little spare manufacturing capacity left. Some of them are fully booked for the next several years. They are also facing a shortage of skilled engineers, and most of their production technology and equipment is fairly aged. As a result, they have to work flat out to keep the deliveries on schedule, and questions are being raised about their ability to satisfy growing demand.

Another well-known weakness of the Russian defense contractors is their inadequate service infrastructure. This is a problem that requires an urgent solution because it can seriously undermine the competitiveness of Russian arms exports. China is already capitalizing on the situation by selling spare parts and components for Russian-made weaponry to countries including Malaysia. Setting up service centers in the region would greatly improve Russia's credentials as a reliable long-term partner. As a next step Russia could set up joint ventures with Indonesia, Malaysia, and Vietnam. That would not only free up manufacturing capacity for other contracts in Russia itself, but also stimulate Russia's defense R&D.

COOPERATION IN SPACE EXPLORATION

The body in charge of Russia's cooperation with other countries in space exploration is the Federal Space Agency Roskosmos. A number of steps are being taken to develop closer ties in this area with Southeast Asian nations, especially Malaysia, Indonesia, and Vietnam.

MALAYSIA

The government of Malaysia has set itself an ambitious goal of joining the space club by 2020. That will include the launch of its own satellites and a program of lunar exploration. In 2002 the country set up the Malaysian National Space Agency (MNSA). The agency has several satellite ground stations and operates the Malaysian Space Center. In order to be able to launch its own space carriers in the future and to offer commercial space launch services, the country is planning to build its own space launch site in Tawau, in the sparsely populated state of Sabah on the Malaysian part of Borneo. The site is only a few degrees north of the equator. NASDA, the Japanese national space agency, is providing assistance in the project.

Malaysia already operates several satellites. Some of them are foreign-made, a few were built by its own Astronautic Technology (M) Sdn. Bhd. All were put into orbit from space launch centers in other countries. The annual budget of the Malaysian space program is $25 million.

Cooperation between Russian and Malaysia in space exploration includes two key areas. One is the flight of Malaysia's first astronaut to the International Space Station. The other is the launch of Malaysian communication and research satellites by Russian space launchers.

Russian—Malaysian cooperation in space launches began in September 2000, when Malaysia's first research satellite, TiungSAT-1, built by Astronautic Technology, was launched by a Dnepr carrier from the space center in Baikonur.[36]

On December 11, 2006 a Proton carrier launched the MEASAT-3 communication satellite from Baikonur.[37] The previous two satellites of the series, MEASAT-1 and MEASAT-2, were launched in January and November 1996.[38]

Another area of Russian–Malaysian cooperation is the Angkasawan program, which included a visit by a Malaysian astronaut to the International Space Station. The visit was agreed as part of the Malaysian contract for 18 Russian Su-30 MKM fighters signed during President Vladimir Putin's visit to Malaysia in August 2006. Under the terms of the deal Russia financed all the costs of training for two Malaysian astronauts. On October 10, 2007 Sheikh Muszaphar Shukor became the first Malaysian citizen to go into space. He spent 11 days aboard the International Space Station. Malaysia plans to send its second astronaut into space by 2015.

INDONESIA

The Indonesian National Institute of Aeronautics and Space (LAPAN) was set up by President Sukarno's decree on November 27, 1964. The institute's head office is situated at the LAPAN Space Center in Jakarta. It conducts long-term civilian and military aerospace research programs. Fore more than 20 years now LAPAN has been building and operating space satellites (mainly communication satellites), including LAPSAT-1, LAPSAT-2, Palapa A1, and Palapa A2.

LAPAN's extensive facilities and infrastructure include the Koto Tabang meteorological radar in Eastern Sumatra, which was launched in 2001. The agency operates a network of satellite ground stations, laboratories and observatories. It also maintains the largest aerospace research library in ASEAN.

Space cooperation between Russia and Indonesia has been on the ascendant over the past five years. In 2008 Russia's Aerospace Corporation (AKK) and Indonesia's Air Launch Centre Nusa have been working on a joint project called Air Launch, which aims to put satellites into low-Earth orbits from a specially equipped An-124-100VS aircraft. The project involves several other Russian and Indonesian aerospace organizations. It is directed by the Russian Roskosmos and Indonesia's LAPAS. It also aims to develop a competitive commercial space launch system that can put payloads of several hundred kilos into any Earth orbit, including geo-transitional and geo-stationary. This can be done by launching satellites from an equatorial launch site now being built at an airfield at the Indonesian island of Biak. The payload will be launched at an altitude of 10 km or more from the An-124-100 Ruslan carrier. The first launch is scheduled for 2011.

VIETNAM

On June 14, 2006 the Vietnamese government approved the national strategy of space research and exploration until 2020. In accordance with that document, on November 20, 2006 the government set up the Institute of Space Technology under the National Academy of Science and Technology. In 2008 it also set up a government commission on space research and exploration, which oversees and directs the national space programs and international cooperation in this area.

The Vietnamese national space strategy sets out the following goals for the period of 2006–2010:

- Pass any remaining legislation that is required to facilitate space technology research and application.

- Create a national space infrastructure by: building a satellite ground station and a center of satellite imagery processing and storage; acquiring the necessary technology and launching a small Earth observation satellite; building a global positioning system satellite; launching the VINASAT communication satellite; and creating a new national space technology laboratory.
- Encourage and facilitate space exploration and technology research; starting from 2008 the Vietnamese Academy of Science and Technology is implementing an independent national program of space technology research and development.

In November 2007 Vietnam launched a satellite ground station which processes data received from the SPOT Earth observation satellite and ENVISAT environmental satellite. On April 12, 2008 the first Vietnamese communication satellite, VINASAT-1, was successfully put into orbit.

In cooperation with the Japanese space agency Vietnam is working on a project to build the Hoa Lac national space center, which is scheduled for opening by 2018. The main task set before the center is to develop a national capability to build satellites. It will host a satellite assembly and testing facility, a satellite ground station, a research center, an observatory, and a space museum.

Over the period 2010–2012 Vietnamese staff of the future space center will be undergoing training in Japan; their training will continue in 2013–2018 at Hoa Lac itself. Japanese experts will be involved in operating the center until 2022, whereupon their duties will be taken over by indigenous specialists.

The Vietnamese space program is in its early stages, and it relies heavily on cooperation with the more advanced space nations. But progress has already been made in areas such as hydrometeorology, telecommunications (the VINSAT project), Earth imaging (the country has already compiled a detailed satellite map of its entire territory using data from the Landsat and SPOT satellites), and satellite navigation.

The Vietnamese government views the United States, Japan, China, and the EU as it most important partners in developing the space program. The potential for cooperation with Russia in this area remains untapped. That may change though following President Dmitry Medvedev's visit to Hanoi in October 2010.

Cooperation between Russia and Southeast Asian nations is yet to live up to the promise contained in the bilateral strategic documents. Certain achievements have already been made in areas such as space launches (mainly satellites), the visit by an astronaut from one of the region's nations to the International Space Station, satellite navigation, space medicine, and biology, etc. Nevertheless, given Russia's vast experience in space exploration, there is clearly a lot of untapped potential for greater cooperation.

COOPERATION IN NANOTECHNOLOGIES

There is no clear or universally accepted definition of nanotechnology. According to the Concept of the Development of Nanotechnology in Russia until 2010, nanotechnology is defined as a combination of methods and techniques that enable controlled creation and modification of objects that include components with a size of less than 100 nm in at least one dimension, resulting in radically new characteristics, with subsequent integration of these objects into normally functioning systems of larger scale.

Nanotechnology is an important high-tech area; its practical applications can drastically improve efficiency and confer substantial competitive advantages in the longer term. Billions of dollars are being spent every year on nanotechnology research by recognized technology leaders and by countries that are rapidly catching up with the world elite. Scientists predict that nanotechnology will revolutionize the manipulation of matter in the same way that computers have revolutionized the manipulation of information. The leading world nations therefore consider this technology and its practical applications as one of their top research priorities.

For Russia and most of the Southeast Asian nations nanotechnology is a relatively new area. One indication of how seriously this area is treated in Southeast Asia and the Asia-Pacific as a whole is that the region is home to such a high-profile international initiative as the Asia Nano Forum.

The ANF is a network organization registered in October 2007. Its headquarters are located at the Institute of Materials Research and Engineering (IMRE) in Singapore. It includes 15 member states in the Asia-Pacific and the Middle East. The Southeast Asian members are Vietnam, Indonesia, Malaysia, Singapore, and Thailand. The main objective of the forum is to facilitate exchange of information and thereby foster the development of nanotechnologies in the member states. For Russia the ANF could serve as a useful platform for establishing contacts with countries in the region.

The ANF network is coordinated by representatives of each member state. The role of a representative can be fulfilled by government agencies, leading research institutions, or national nanotechnology coordination bodies. The Southeast Asian representatives are:

- the Vietnamese Academy of Science and Technology—VAST;
- the Indonesian Institute of Sciences;
- the Academy of Sciences of Malaysia;
- the Institute of Materials Research & Engineering (IMRE), Singapore; and
- the National Nanotechnology Centre, Thailand.

The first mention of nanotechnology in Russian legislation and regulation documents was made in March 2002. The first ''Concept of the development of nanotechnology in Russia until 2015'' was approved by the Russian cabinet on November 18, 2004. On April 24, 2007 the Russian president signed the ''Strategy for the development of nano-industry,'' which set out the principles of state policy in this area. Soon afterwards the Russian Duma passed Law No. 139 of July 19, 2007 on the creation of the Russian nanotechnology corporation (Rosnano).

In early 2008 Russia adopted two large national programs, the ''Program of the Development of Nano-Industry in Russia until 2015'' and the ''Federal Program for the Development of Nano-Industry Infrastructure in Russia for 2008–2010,'' which built on the 2007 nanotechnology strategy document. Another important paper is the ''Program of Fundamental Science Research by the State Academies of Sciences in 2008–2012,'' approved by the Cabinet on February 27, 2008.

Law No. 139 designates Rosnano as the main Russian institution for the development of innovation in the nano-industry. It plays the key role in practical efforts to build a national nanotechnology network. The corporation's international cooperation programs pursue the same goal.

Before discussing the specifics of Russia's cooperation with Southeast Asian nations in the development of nanotechnologies, it is important to outline the current state of this sector in the region. Below is a brief review of the key national programs in this area being implemented by the Southeast Asian states.

VIETNAM

The key organizations that finance nanotechnology research and development in Vietnam are: the Ministry of Science and Technology, the Vietnamese Academy of Science and Technology and the Ministry of Education and Training.

In 2003 the Ministry of Science and Technology started implementing a program of building the infrastructure required for the development of nanotechnologies in Vietnam. The program has become a new priority of the national program for the development of fundamental research and natural sciences. Its budget is $0.35 million.

In December 2003 Prime Minister Han Van Khai announced the National Strategy for the Development of Science and Technology until 2020. One of the strategy's priorities is nanotechnology. As part of the efforts to implement this strategy the Ministry of Science and Technology has launched a program of building the necessary infrastructure.

In 2004 the government approved the decision to build 17 National Key Laboratories in Vietnam, each costing $3 million–$4 million. Most of these laboratories have already opened. Some of them specialize in nanotechnology research, including two high-tech centers in Ho Chi Minh and Hanoi.

As part of the program of fundamental and natural sciences research, over the period 2004–2006 the government launched a number of education initiatives to build up a pool of qualified specialists in this new area of research.

To summarize, the Vietnamese state nanotechnology programs include:

- the creation of the Laboratory for Nanotechnology in Ho Chi Minh;
- the launch of the National Program for the Development of Nano Sciences and Technologies (2003–2005);
- the launch in 2003 of new nano-science and nanotechnology courses by Hanoi National University, with the support of the Academy of Science and Technology of Vietnam; and
- development of international cooperation in nanotechnology education, research and applied areas.

INDONESIA

The National Nanotechnology Initiative launched in Indonesia at the beginning of this decade is coordinated by the Machtar Riady Center for Nanotechnology and Bioengineering, which was set up in May 2004. The center aims to foster the development of the nanotechnology and bio-engineering sectors. It focuses on training a new generation of specialists for these new industries.

The national strategy paper that coordinates the development of nanotechnologies in Indonesia is the Nanotechnology Research National Development Plan. It includes five priority areas of research:

- nanomaterials;
- nanobiotechnologies;
- nanodevices;
- nanochemistry; and
- nano-science and education.

MALAYSIA

The Malaysian national nanotechnology program was launched in 2001. The country's eighth five-year plan covering the period 2001–2005 names nanotechnology as one of the 14 priority areas of strategic research. The policy of state support for nanotechnology development continued in the 2005–2010 five-year plan, as well as in the National Science and Technology Policy II paper and the Third Industrial Master Plan. All these initiatives name nanotechnology as one of the priority areas of research that is aimed at boosting the country's competitiveness in high-tech industries.[39]

All these policies, combined with substantial state funding, have already yielded a number of tangible results, including:

- the creation of a whole number of well-equipped research centers, such as the Ibnu Sina Institute for Fundamental Science Studies at the Malaysian Technology University; the Institute of Microengineering and Nanotechnology at the Malaysian National University; the Advanced Materials Research Centre at the Standards and Industrial Research Institute of Malaysia; and the Combinatorial Technology and Catalysis Research Centre at the Malaysian University;
- the launch of a state nanotechnology and nano-science higher education programs.

The priority areas of nanotechnology research in Malaysia include:

- application of nanotechnologies in materials and manufacturing processes;
- nanoelectronics and computer technologies; and
- nanotechnology applications in life sciences and medicine.

Although nanotechnology is still in its early days in Malaysia, the importance of this area of research is recognized in the National Nanotechnology Initiative launched by the Malaysian government. One of the initiative's key objectives is to create the National Nanotechnology Center.

SINGAPORE

Among the other nations of Southeast Asia Singapore is rightly believed to be the leader in nanotechnology, which has become an important branch of the country's knowledge-based economy. The government here has a longstanding policy of providing administrative and tax support to companies involved in research and innovation. The country has become a regional leader in high-tech industries, including nanotechnology.

Recognizing the growing importance of nanotechnologies, the government launched an effort to develop this area of knowledge back in 1997. Over the period 1997–2003 it spent $103 million on nanotechnology research. The leading public sector investors in this research are the Ministry of Education and the Agency for Science, Technology and Research.

The key nanotechnology research institutions in Singapore are the Technology University and the National University of Singapore. In 2002 the government set up the Nanoscience and Nanotechnology Cluster (Nanocluster) and the Technology University and the Nanoscience & Nanotechnology Initiative at the National University. Commercial application of nanotechnologies began in Singapore in 2002; starting from 2003 nanotechnologies have been applied in medicine, especially in diagnostics and treatment. State financing of the nanotechnology sector over the period from 2003 to 2007 reached $310 million.

Singapore is an international hub of science and technology research. It has a well-developed infrastructure for innovation, including a world-class education system, a universal system of financing research at every stage, and efficient commercialization mechanisms. It is for a good reason that Singapore has been chosen to host the headquarters of the ANF. Some of the key members of the forum, including Japan, China, and New Zealand, have their offices in the country.

The Russian state-owned nanotechnology corporation, Rosnano, is working to establish contacts with all the regional leaders in this area. Rosnano delegations have visited Japan, China, Singapore, South Korea, and Taiwan. The list is not very long—but the corporation itself was set up only two years ago, and apart from Southeast Asia it has been working to establish contacts in the United States and Europe as well. According to Sergey Mostinsky, the Head of the corporation's Department of International Cooperation, the list of the countries to visit in the Southeast Asian was carefully chosen to include all the regional leaders in the area of nanotechnology.[40]

In its efforts to establish a network of contacts with Southeast Asian countries Rosnano is facing some inevitable difficulties because it is a fairly new player on the nanotechnology market. Partners do not fully realize Russia's potential in this market. Some of them still have old stereotypes of Russia as a country where it is risky to do business due to customs and administrative barriers, opaque financing mechanisms, etc. As a result of these perceptions, attracting potential partners takes much more time than it should.

In addition, the owners of good ideas or promising technologies are not always willing to have them commercialized on Russian territory. They often offer Rosnano a stake in an existing nanotechnology company somewhere abroad in return for investment. But Rosnano is prohibited by law from doing that; its very reason for existence is to develop the nanotechnology industry on Russian territory, so investing in foreign companies is not an option for it.

But in spite of all these difficulties, Rosnano continues to build a network of contacts abroad. In March 2009 Singapore's Biopolis research center hosted a Russian–Singaporean nanotechnology conference. In March 2010 the director-general of the Russian corporation, Anatoliy Chubais, led a delegation of senior company officials on a visit to Singapore. According to Sergey Mostinsky, this country was chosen because of its successful record of implementing various cluster projects, building techno parks, and attracting foreign specialists to train indigenous talent and participate in various national projects. Contacts with Singapore will give Russia valuable experience that can be applied back home, since Russia has next to no experience in commercializing innovation in this area.

For now it is too early to speak of any specific projects that have already been implemented—such things take time. But there are projects in the pipeline. In the case of Singapore, several joint initiatives are now being discussed.

One of these joint projects was launched in September 2010. On September 27, 2010 Rosatom Chief Anatoly Chubais, the Deputy Head of the Economic Development Board of Singapore, Tan Chun Xiang, and the Director General of the international investment company 360ip, Glenn Kline, signed an agreement of intention to set up the Asian Nanotechnology Fund.[41]

The creation of this fund can pave the way for Rosnano's entry into the markets of Asia, using Singapore as a window to this very promising region. It is also worth noting that one of the guardians of the Moscow School of Management in Skolkovo is the minister mentor of the Republic of Singapore, Lee Kuan Yew, one of the fathers of the Singaporean economic miracle.

A number of other countries in Southeast Asia, including Vietnam, Indonesia, and Malaysia, have expressed interest in working with Rosnano. For now, however, no tangible contacts have been established with them in the area of nanotechnology. Nevertheless, since these countries are all members of the Asian Nano Forum, initial contacts were established in the autumn of 2010 during the meeting of the forum in November 2010 (Hanoi). The meeting was attended by a Rosnano delegation.

Joining the Asian Nano Forum could be a very useful step for Russia in its efforts to develop greater cooperation with countries in Asia and the Southeast Asian region. Such a move offers a number of clear advantages. First, it would stimulate exchange of experience and knowledge in nano-sciences and nanotechnology, including nanotechnology education, between Russia and the ANF member states. Second, it would make countries in the region more aware of Russia as a new player on the nanotechnology market. That alone would resolve a number of the already mentioned problems Rosnano is currently facing.

CONCLUSION

Looking at the history of Russia's relations with Southeast Asian nations in strategic areas, such as defense industry cooperation, space, and nanotechnology, there is a group of countries which have become fairly close partners (with the possible exception of nanotechnology, as this is a fairly new area). That group includes Vietnam, Indonesia, and Malaysia—and, to a lesser extent, Thailand. There is also Burma, which is an important partner but also quite a difficult one, for a number of reasons; cooperation with it therefore remains fairly limited for the time being.

Russia's two most longstanding partners in Southeast Asia are Malaysia and Indonesia, which can rightly claim the title of regional leaders. With these partners Russia has earned itself a reputation

as a reliable and dependable partner which, when necessary, is prepared to make concessions on sensitive issues such a payments for arms deliveries. This was demonstrated during the first Malaysian contract for MiG-29N aircraft in 1994, and then again during a Su-30MKM contract in 2003. The example in the case of Indonesia is the $1 billion loan Moscow made to Jakarta in 2007. There are therefore excellent prospects for further cooperation as Russia has already become a well-known and reliable partner to these two countries.

Vietnam, meanwhile, has become one of the key Russian partners in Southeast Asia in recent years thanks to close cooperation in arms supplies and nuclear energy. There are excellent prospects for further business with Vietnam in building its naval infrastructure and selling it Russian air defense systems.

Cooperation with these three countries plays a key role and sets the tone for Russia's relations with other countries in the region. The nature of that cooperation, however, varies from country to country and pursues different purposes.

Military and technical cooperation has traditionally been a forte of Russian foreign policy. Russia remains the second-biggest arms exporter in the world. In its dealings with the Southeast Asian nations it is using its experience, connections, and reputation to keep its arms sales, which are an important source of revenue for the Russian treasury, at their current levels.

In space cooperation Russia has vast experience and skills that enable it to be the supplier of technologies. But the country needs to work hard to strengthen its presence in the Southeast Asian region. Just as with arms exports, here too the objectives are not only strategic but financial as well.

Nanotechnology, meanwhile, is a different matter entirely. This area has been designated as one of the national priorities. But Russia is a relative newcomer here, and a net recipient of knowhow and technologies. The current focus therefore is on making use of other countries' experience in commercializing innovative technologies, training specialists and attracting indigenous talent. The experience of countries like Singapore can be very valuable for Russia.

It should also be taken into account that, given the right strategy, cooperation with the Southeast Asian nations can not only bring financial dividends, but also stimulate the development of science and technology in Russia itself.

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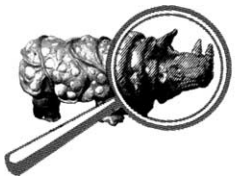

Galiya Ibragimova

NUCLEAR ENERGY IN CENTRAL ASIA: WHAT ARE THE PROSPECTS?

In 2009 Uzbekistan officially withdrew from the United Energy Grid of Central Asia (UEGCA),[1] saying that the system was vulnerable to unauthorized activities of some of its members.[2] The long-threatened move finally came after a major accident at the Nurek Hydroelectric Power Plant in neighboring Tajikistan. The cause of the accident was the UEGCA's inability to produce enough electricity during the morning peak hours. As a result, the southern part of the Tajik energy grid, including the recently built Sangtudin HPP, was put out of action. The accident at the Nurek nuclear power plant (NPP), which is part of the UEGCA, led to the disconnection of a backbone transmission line (BTL) in Uzbekistan's Surkhandaryinskaya Province. That, in turn, cut off electricity transmission to Afghanistan along the Regar–Guzar BTL between Uzbekistan and Tajikistan. The whole debacle demonstrated that systemic lapses on the part of the UEGCA operators can lead to serious disruption in the work of the national segments of the grid and undermine the region's energy security.

Uzbekistan's withdrawal from the UEGCA can cause an energy deficit in Kyrgyzstan, Tajikistan, and southern Kazakhstan. The Uzbek capital Tashkent hosts the grid's United Control Center. The center directs the flow of electricity via Uzbekistan's BTLs to all the other republics in the region. This makes Uzbekistan the default regional energy coordinator, which ensures uninterrupted supply of electricity to the whole of Central Asia.

Turkmenistan quit the UEGCA in June 2003. Kazakhstan does not really need to be a member either. Only the south of the country relies on the UEGCA. The north is tightly interconnected with the Russian grid, which can provide enough power for the whole of Kazakhstan. Astana's withdrawal from the system will lead to a reduction in electricity supplies to neighboring Kyrgyzstan, which depends on the UEGCA for 70 percent of its electricity.[3] Meanwhile, the Sogdiyskaya Province of Tajikistan, with a population of over two million people, also depends on electricity supplies from Uzbekistan via the united grid. Other parts of the country are supplied from Turkmenistan, but these supplies depend on Uzbek BTLs. If the united electricity grid is shut down, the whole of Tajikistan could be left without power. To illustrate, in the winter of 2008 Uzbekistan halted the transit of electricity from Turkmenistan to Tajikistan, citing technical problems in the national energy system. The incident occurred despite the trilateral agreement on energy transit via the Uzbek energy grid. As a result, Turkmenistan began unauthorized consumption of energy from the UEGCA, which led to emergency shutdowns at power plants in southern Kazakhstan and in the north of Kyrgyzstan. Kazakhstan reacted by disconnecting its grid from the UEGCA.

The UEGCA was created back in Soviet times to redistribute the flows of energy between the Central Asian republics, since some of them were much richer energy-wise than others. The bulk of the region's fossil fuel (oil, gas, and coal) deposits are found on the territory of Kazakhstan, Uzbekistan, and Turkmenistan. Most of the electricity in these three republics is therefore produced by thermal power plants (TPP). Tajikistan and Kyrgyzstan, meanwhile, account for 90 percent of Central Asia's hydroelectric energy resources. Most of their electricity is generated by the highly flexible hydroelectric power plants (HPP).

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Since Central Asia is very large and includes several time zones, the united energy grid evens out the hourly fluctuations of energy consumption across the five countries, thereby reducing the load on electricity generation equipment and prolonging its service life.[4] During the morning and evening peak hours the deficit of electricity can be covered by power plants in the neighboring republics, which can be brought on line in a matter of seconds. This reduces the number of power failures and increases the reliability of electricity supply.

Apart from redistributing energy flows, the UEGCA automatically controls the cascade of water reservoirs in the basin of the Naryn, Syrdarya, and Amudarya rivers. These reservoirs are used not just for electricity generation but also for irrigation. In order to increase electricity output at their HPPs, Kyrgyzstan and Tajikistan can release additional volumes of water from the Toktogul and Nurek reservoirs to power the turbines. That, however, can have a major adverse impact on the crops downstream, in neighboring Uzbekistan.[5] In order to prevent such occurrences, energy is imported from Uzbekistan, where it is generated by TPPs. In return, Kyrgyzstan and Tajikistan open up the locks of their reservoirs in spring and summer to increase the flow of water to the Uzbek part of the fertile Ferghana Valley. In addition, Kyrgyz HPPs export some of their electricity to Uzbekistan during peak hours.

Such interconnectedness of the Central Asian republics' energy systems persuaded them to make an extra effort to keep the UEGCA in operation even through the difficult years after the fall of the Soviet Union. But the frequent increases in the price of fossil fuels supplied by Uzbekistan and Kazakhstan are forcing Kyrgyzstan and Tajikistan to rely more on their existing hydroelectric power plants and push forward with the projects to build new ones.[6] That has drawn sharp criticism from Uzbekistan, which opposes the construction of any new HPPs.

Growing differences are leading to the disruption of the normal work of power plants in the region. This makes it difficult to use the Central Asia's fuel and energy resources in a rational and effective manner. The best way out of this situation could be to look for alternative energy sources that can plug the deficit of energy-generation capacity in the region. The region has rich uranium reserves and several research reactors built as part of the former Soviet Union's military-industrial complex. It therefore has the attendant nuclear skills and expertise. Even more importantly, the Central Asia governments realize that natural uranium can be converted into a high-tech and high added-value product. All of that can become the basis for the development of the nuclear energy industry in region.

The existing Central Asian nuclear facilities were built in Soviet times as part of the country's defense industry. After the collapse of the Soviet system many of the companies became unprofitable due to lack of investment and very low uranium prices on the world market. The Central Asian nuclear industry's chain of supply and administration was disrupted. That chain included the production of uranium in Uzbekistan, Kazakhstan, Kyrgyzstan, and Tajikistan, as well as the manufacturing of fuel pellets in Kazakhstan. Individual nations were left to their own devices in their attempts to reanimate the nuclear industry and find new markets for their uranium produce. The projected decline in the world output of oil and gas has made the leading world powers look towards the uranium-rich Central Asian republics. Since the beginning of this decade the region has become one of the leading uranium exporters.

Central Asia holds 17 percent of the planet's uranium.[7] Kazakhstan and Uzbekistan are in the Top 10 in terms of reserves; both have advanced mining technologies. Kazakhstan intends to become the first country in the region to build a nuclear power plant. It plans to launch its first pressurized water modular reactor of the VBER-300 type by 2016. Eventually the country hopes to acquire a complete nuclear fuel cycle.[8]

Other Central Asian republics could also join the initiative to develop nuclear energy in the region. All of them have shown interest, except for Turkmenistan, which sits atop huge gas reserves. But it cannot be ruled out that as other countries in the region become involved in joint efforts to build a united Central Asian nuclear energy industry, Turkmenistan will join in as well.

Rich uranium deposits in several Central Asian republics and the nuclear infrastructure inherited from the former Soviet Union can become the basis of a successful nuclear industry in the region. At some point these republics could even acquire a complete nuclear fuel cycle. They can participate in the international division of labor in uranium enrichment services, exchange nuclear fuel cycle (NFC) services between themselves and export uranium products to the world market. Such a scheme can not only diversify the region's energy mix but can also become the basis for mutually advantageous economic cooperation. Nuclear energy can have very positive effects on

the technological development of the Central Asian economies. It can become an alternative to hydroelectric energy and fossil fuels, thereby resolving the region's energy problems.

CENTRAL ASIAN ECONOMIES AND PEACEFUL USE OF THE ATOM

Central Asia is self-sufficient in terms of energy. But due to the mostly agrarian nature of the region's economies their energy efficiency is woefully inadequate. Energy use per dollar of GDP is unacceptably high. Energy losses at every stage, from the producer to the end-user, are many times higher than in the developed countries. There is also wide disparity in energy use between the region's nations. Most of the energy equipment is worn out and obsolete, and there is a serious deficit of cross-border transmission capacity. If all the existing power plants in the region were to be refurbished and their output increased to the maximum, that would yield only a 30 percent rise in power generation. That is not enough to meet the constantly growing demand for electricity.[9] The Central Asian republics are already facing frequent power outages and growing energy deficit.

The fuel and energy balance of the countries in the region is determined by the availability and price of locally produced primary energy resources. Gas, coal, and oil make up the bulk of the region's energy mix. Kazakhstan and Uzbekistan between them account for 81 percent of energy production and 83.5 percent of consumption. Kazakhstan is the leading producer of primary energy resources in the region; Uzbekistan is the biggest consumer.

KAZAKHSTAN

Most of the country's electricity is produced by burning fossil fuels. Although Kazakhstan has large oil reserves, its thermal power plans rely mostly on cheap coal, which accounts for 70 percent of electricity production. Most of the country's 59 power plants are located in the central and northern provinces, close to the coal mines. They include combined heat and power plants (total installed capacity 6,783MW), condensation power plants (9,056MW) and gas turbine plants (394MW). Hydroelectric power plants produce only about 12 percent of the republic's electricity (2,227MW). The total installed capacity of Kazakh power plants is 18,240MW.[10]

Despite the availability of domestically produced fuel and energy resources, Kazakhstan imports petrochemical products, natural gas, and electricity. The country does not have enough oil refineries and power plants to cover its own consumption. In addition, its energy-poor provinces are separated by great distances from the energy-rich parts of the country. Kazakhstan has two virtually independent energy systems, one in the north, the other in the south. The north hosts 72.7 percent of the republic's power-generation capacity. In addition, several BTLs (rated voltage from 220kV and 500kV to 1,150kV) link northern Kazakhstan to the Russian energy grid.[11]

The south of the country has a common energy grid with Uzbekistan and Kyrgyzstan. Here the installed energy-generation capacity is only 3,015MW. In 1998 Kazakhstan's southern energy grid was synchronized with the northern grid due to constant power outages in the UEGCA. In 2000 the entire Kazakh grid was linked to the energy systems of the CIS, after technical agreements to that effect were signed between Kazakhstan itself, Russia, and the Central Asian states.[12]

So far, Kazakhstan has not been affected by energy shortages. But its growing economy and population will increase demand for electricity. In order to be able to meet that demand, the country intends to develop nuclear energy. It needs nuclear power plants to compensate for the deficit of electricity generation in the southern provinces, which are part of the UEGCA. The gas-fired TES-1 and TES-2 heat and power plants, which accounted for the bulk of electricity production in the south some years ago, have now been decommissioned. The availability of coal and oil in that part of the country is limited; they cannot replace natural gas. Meanwhile, Tajikistan's proclivity to siphon off more electricity from the UEGCA than it is entitled to makes Kazakhstan hostage to its neighbors' squabbles over energy and water.

According to forecasts by the Kazakh Energy and Mineral Resources Ministry, ending the deficit of electricity in the remote parts of the country will require an additional 900MW of energy generation capacity. Kazatomprom, the national nuclear operator which has incorporated all the

Table 1. **Fuel and Energy Balance of the Central Asian Republics in Early 2007**

Installed generation capacity	Kazakhstan	Kyrgyzstan	Tajikistan	Uzbekistan	Total
TPP	16,013MW	763MW	814MW	9,870MW	27,460MW
HPP	2,227MW	2,950MW	3,256MW	1,700MW	10,133MW
Total installed capacity	18,240MW	3,713MW	4,070MW	11,570MW	37,593MW
Available capacity	13,840MW	3,100MW	3,428MW	7,800MW	25,068MW
Exports	595GWh	1,216GWh	266GWh	634GWh	2,711GWh
Imports	464GWh	430GWh	1,058GWh	609GWh	2,561GWh

Kazakh nuclear industry assets, intends to build three VBER-300 nuclear reactors by 2020.[13] The first, in Aktau, is scheduled for launch in 2016.

Kazatomprom has decided to build medium-size nuclear reactors because the country's energy system is not well equipped to operate larger power plants with rated capacity of over 1,000MW. Each stoppage of a big reactor for fuel reload would require the country to draw an equivalent amount of power from some other source.[14] That source would likely be situated at a great distance from the consumers, making transit expensive and inefficient. In addition, even distribution of power-generation capacity across the country makes for a more reliable energy system. From that point of view Kazakhstan would prefer to have three 300MW reactors rather than one 1,000MW plant. If one of these smaller reactors goes off line, the remaining two will still be operational, ensuring greater energy security for the country.

Medium-sized reactors were actually designed with regional-scale energy systems in mind. Such reactors can be used to build a whole series of nuclear heat and power plants using the same technology platform. They also have very good performance indicators. They produce a minimum of radioactive waste. They use low-enriched uranium (up to 4 percent of U-235) as fuel. One kilo of this can produce as much energy as 100t of high-quality coal or 60t of oil.[15] That makes it possible to build VBER-300 power plants in relative proximity to the consumers.

The three VBER-300 reactors Kazakhstan plans to build will give it an additional 900 MW of power-generation capacity. What does that mean in economic terms? Each additional 50MW is enough to provide electricity for 4.5 million square meters of new housing, or 220,000 people. In energy-intensive industries, 50MW is enough to cover the needs of one oil refinery capable of processing 2mt of oil per annum, or a cement factory churning out 2mt of concrete each year. In small business, 50MW is enough for 25 manufacturing companies, 150 service companies, or 10 large hypermarkets.[16] The additional 900MW will therefore translate into a major improvement in Kazakhstan's energy-balance indicators. Any surplus electricity can always be exported to the republic's Central Asian neighbors, which is yet another advantage of developing the nuclear energy industry in the region.

Medium-sized reactors are targeted primarily at countries with relatively weak energy grids as an instrument of developing regional electricity generation. These reactors therefore have a large export market. They are mobile, they can be built in places with limited infrastructure, and they can double as central heating plants or water desalination stations. This technology has already drawn interest from China, India, Indonesia, Argentina, Italy, and the United States.[17]

It is worth a separate mention that Kazakhstan has already operated an industrial-size nuclear reactor. The 350MW fast neutron reactor of the BN-350 design at the Mangistau Nuclear Energy Combine in Aktau was used in 1972–1999 as a desalination plant providing fresh water to the city. At present Kazatomprom has two links of the nuclear fuel cycle chain: uranium production and manufacturing of fuel pellets (at the Ulbin metallurgical plant). For now the country lacks the enrichment technology and cannot produce nuclear fuel material, but it is trying to compensate for that by developing cooperation with large international nuclear suppliers which provide the whole range of nuclear fuel cycle services.

The formula Kazakhstan is offering its partners is ''our uranium in exchange for your technology and markets.'' By pursuing cooperation with such nuclear industry leaders as France, Japan, China, Russia, and Canada, the country can acquire the technology needed to develop the peaceful uses of nuclear energy. Such cooperation figures large in Kazakh plans to make the nuclear fuel for its reactors at its own nuclear centers.

In 2010 Kazatomprom intended to increase its natural uranium output to 18,000t. By 2015 it hopes to reach peak production of 27,000t.[18] Russia, whose own uranium production cannot keep up with demand, is obviously interested in its southern neighbor's ambitious plans. The two countries are pursuing cooperation on a whole range of issues related to the nuclear energy industry.

The three VBER-300 reactors will be built by a Russian-Kazakh joint venture between Atomstroyeksport and Kazatomprom. The Afrikantov Design Bureau has been selected as the lead designer for the project. Kazakhstan will provide all the financing. Russia will contribute the rights to the VBER-300 design, to be owned 50–50 by Russia and Kazakhstan. The Nuclear Power Plants joint venture set up in 2006 will promote medium-sized nuclear plants in foreign markets. In October 2006 Russia and Kazakhstan set up three such ventures: Akbastau and Centre Nuclear Power Plants. Akbastau will develop the Yuzhnoye Zarechye uranium field and sections of the Budenovskoye field in Kazakhstan. Centre will enrich uranium.

Uranium for the medium-sized Kazakh nuclear reactors will be enriched by the Uranium Enrichment Center joint venture at Russia's Angarsk Electrolysis Chemical Combine. The arrangement is part of the bilateral nuclear cooperation program signed in 2006. The project of the new plant is now at the design stage; the two sides are discussing the findings of the feasibility study. First production is expected in 2011. Enrichment will use an economically attractive and energy-efficient gas centrifuge technology.[19] Natural uranium will be supplied by the Akbastau joint venture.

In May 2007 Kazakhstan decided to join the Russian initiative to set up the International Uranium Enrichment Center (IUEC) in Angarsk. The country acquired a 10 percent stake in the venture. The IUEC project holds a number of clear advantages for Kazakhstan. It gives the republic access to enriched uranium without having to acquire proliferation-sensitive technologies. Given its long-term plans to build nuclear power plants, Kazakhstan will need a reliable source of enriched fuel. The IUEC venture in Angarsk can be that source.[20] Such active nuclear cooperation between Kazakhstan and Russia is seen as part of a strategy to integrate the two countries' nuclear industries. But things are not quite as rosy as they seem.

Kazakhstan has joined the IUEC—but President Nursultan Nazarbayev has also put forward the initiative of setting up an International Nuclear Fuel Bank (INFB) in Kazakhstan under the auspices of the IAEA. Astana argues that Siberia would not be a good place for such a bank because its harsh climate would make the project too expensive. The proposed site in Russia also has many rivers nearby, meaning greater risk of nuclear material ending up in the world's oceans if there is a leakage. Kazakhstan, meanwhile, has favorable geography and is sparsely populated, making it a suitable country to host the INFB.

The initiative has met with a cool reaction in Russia, which had been counting on Kazakh support for the proposal to create the nuclear fuel bank in Angarsk. Meanwhile, Astana's initiative has won the backing of Iran, which argues that setting up the bank in a country which is part of the Central Asian nuclear-weapon-free zone holds a number of advantages in terms of the security of nuclear materials.

Opponents of the Kazakh proposal point out, however, that the country had hosted the Soviet nuclear arsenal in the past, and that it has common borders with unstable places such as Pakistan and Afghanistan. That, they say, hardly makes it a safe place to host the nuclear fuel bank. So far, Kazakhstan has not managed to get its neighbors in the region on its side. On the one hand, the agreement on declaring Central Asia a nuclear-weapon-free zone does not prevent its participants from pursuing peaceful uses of nuclear energy. But, on the other, it calls on the member states to strengthen security in the region and the Nuclear Nonproliferation Regime. Kazakhstan therefore needs at least some degree of support from Uzbekistan, Tajikistan, Kyrgyzstan, and Turkmenistan for its initiative.

One of the key parts of the nuclear fuel cycle is the reconversion of enriched uranium hexafluoride. This is the main product of isotope uranium enrichment and conversion into the form required for the production of nuclear reactor fuel. Kazakhstan has its own high-tech facility producing fuel pellets. It has been in operation for the past 40 years at the Ulbinsky Metallurgical Plant in Ust-Kamenogorsk. The plant was part of the Soviet defense industry; it manufactured fuel pellets only for the Russian-designed VVER and RBMK reactors. It has recently begun the certification process for uranium dioxide and fuel pellets that can be used in all Western-designed reactors. General Electric is one of the largest importers of powdered uranium dioxide from

Kazakhstan. Kazatomprom intends to increase its exports of uranium dioxide and fuel pellets. The company has already begun qualification trials and the certification process, working in partnership with the leading international nuclear suppliers, engineering companies and makers of nuclear reactor fuel. These include AREVA NP, Westinghouse EC, CNNC, Nuclear Fuel Industries, Kansai Electric Power Co., and Sumitomo Corporation.[21]

Kazakhstan's uranium riches have also attracted interest from France, where nuclear reactors produce 70 percent of the country's electricity. Kazakhstan intends to enter partnership with Areva to begin joint production of fuel assemblies, the end-product of the nuclear fuel cycle. Under an agreement signed in June 2008 during the Kazakh president's visit to France, Areva will provide technical support in launching production of fuel assemblies in Kazakhstan.

The projected annual output of the new facility to be built at the Ulbin Metallurgical Plant is 1,200t. It will include a separate production line making fuel assemblies for French-designed reactors (400t a year). The pellets for these assemblies will be supplied by Kazatomprom. The remaining 800t per annum of output capacity will be used to make fuel assemblies for reactors of other designs. The new facility is expected to be completed in 2012, with first production scheduled for 2013. The estimated cost of the project is $170 million.[22]

Kazakhstan's nuclear fuel cycle will be incomplete without uranium conversion. To that end the republic is pursuing partnership with Canada, which is one of the world leaders in the uranium industry. Canada's Cameco and Kazatomprom intend to launch a joint conversion venture, TOO Ulba Konversiya, with an annual output of 12,000t of uranium hexafluoride (UF). That will add another 17 percent to the existing global uranium conversion capacity. The funding of the joint project will be contributed by the two sides in proportion to their stakes in the joint venture, with Canada providing all the required technology.[23]

Asian countries also play an important role in Kazakhstan's plans for its nuclear industry. Japan and China are seen as the most attractive partners. Japan consumes 8,000t of uranium each year. Its own enrichment capacity covers only 10 percent of domestic demand. The country is therefore heavily reliant on enrichment services provided by other countries.

Kazakhstan, with its 817,000t of discovered uranium reserves,[24] has long been seen by Japanese companies as an attractive potential partner. After visits by Japanese delegations in 2006–2007 the two countries signed a number of nuclear energy agreements covering uranium production and exports, manufacturing of nuclear fuel components, nuclear research, and development of new technologies. Under these agreements Kazakhstan has granted Japan production rights for the Zapadniy Myndukuk, Kharasan-1, and Kharasan-2 uranium fields. And in April 2007 Toshiba signed a share transfer agreement with Kazatomprom under which the Kazakh nuclear holding will control a 10 percent stake in Westinghouse, a leading international nuclear industry company.[25]

As part of the agreement, Toshiba has been given the right to develop the Khorasan uranium field in southern Kazakhstan and produce 850t of uranium there every year. For *Kazatomprom*, meanwhile, the deal has been a chance not only to enter new uranium markets but also to launch production of high added-value nuclear produce. Westinghouse is one of the handful of corporations that can manufacture fuel assemblies for any reactor design.

Westinghouse also controls about 50 percent of the market for new reactors. Kazatomprom will now have access to the company's established markets. Eventually it hopes to supply nuclear fuel for energy reactors made by Westinghouse Electric LLC. Cooperation with Japan has therefore given Kazakhstan opportunities to gain valuable experience and acquire access to nuclear fuel cycle technologies.

Many experts view the Westinghouse deal as a personal achievement of Kazatomprom's former head Mukhtar Dzhakishev. The arrival of a pro-Russian new boss, Vladimir Shkolnikov, can bolster the Kazakh nuclear industry's links with the Russian nuclear operator Rosatom, which has always had fairly complicated relations with Japan.[26] The new management has also suspended the introduction of new production technologies at the Khorasan-1 and Khorasan-2 fields, which are being developed jointly with Japan. Tokyo has already expressed its concern. However, the difficult relationship between Russia and Japan will hardly cause any radical shifts in the Kazakh–Japanese cooperation, especially considering Japan's strong interest in securing new sources of uranium.

China is also interested in the Kazakh nuclear industry. Beijing views nuclear energy as one of the best ways of satisfying China's growing demand for electricity. The country has launched the biggest nuclear energy program in the world, making it a leading consumer of nuclear fuel cycle services. For now, nuclear energy accounts for only 1.9 percent of Chinese electricity generation. The country's strategic goal is therefore to modernize its nuclear industry, achieve self-sufficiency in terms of its nuclear requirements and eventually to become an exporter of the nuclear fuel cycle services.[27] China's own reserves of natural uranium (70,000t) are enough to satisfy the needs of its nuclear power plants in the short term. But in the medium time frame, as the country's nuclear industry continues to expand, it will become increasingly reliant on imports.

China began to explore Kazakhstan's uranium riches back in 2007. Leading Chinese nuclear companies, including China National Nuclear Corp. (CNNC) and China Guangdong Nuclear Power Corp. (CGNPC), signed a number of agreements with Kazatomprom on the joint development of the Irjol uranium mine in Kyzylorda Province and Semizbay in Akmola Province. China has also secured a share in the Zhalpak uranium field in South Kazakhstan Province.

In return Kazakhstan has been given the right to make large investments in the Chinese nuclear industry and access to certain nuclear technologies. For a period of 10 years the republic will supply uranium to China and manufacture fuel for Chinese NPPs. From 2013 it will also supply fuel assemblies for Chinese reactors and participate in the construction of Chinese nuclear plants. It is worth mentioning that Kazatomprom is the first company other than CGNPC to have been chosen as a supplier for the new Chinese NPPs.[28]

To summarize, the steps being taken by Kazakhstan to implement its nuclear energy development program appear timely and effective. But without cooperation with the world industry leaders, which have the necessary nuclear fuel cycle technologies and are willing to share their experience with the newcomer states, even the best-laid plans can founder. Kazakhstan will inevitably have to pursue nuclear cooperation with other countries. As a result, it is unlikely that the republic—or, for that matter, the Central Asian region as a whole—will acquire an independent nuclear fuel cycle. A far more likely scenario is that the nuclear energy in Central Asia will rely on a transnational vertically integrated system providing NFC services.

UZBEKISTAN

The Republic of Uzbekistan's fuel and energy sector includes 39 thermal and hydroelectric power plans with a total installed capacity of 11,570MW. They produce 55 billion kWh of electricity every year, which is about 52% of the total UEGCA production. The thermal power plants burn mostly gas, coal, and fuel oil. They account for 85 percent of the republic's installed generation capacity (9,870MW); hydroelectric power plants make up the remaining 15 percent (1,700MW).[29]

Most of Uzbekistan's power plants were built 40 years ago or more. They are now nearing the end of their service life. The available generation capacity cannot cover the constantly growing demand. Many of the thermal power plants need extensive upgrades and refurbishment. The difference between peak consumption in summer (6,882MW) and in winter (7,551MW) is not as great in Uzbekistan as in the neighboring countries in the region: in summer, a lot of electricity is consumed by the agricultural irrigation system.[30] Rolling blackouts are a fairly common occurrence.

Another major problem faced by the Uzbek energy sector is that the country lies far from the main international energy markets. That hampers the inflow of foreign investment into upgrading the national energy sector and increasing its output capacity. In order to improve its economy's energy efficiency and end its dependence on the UEGCA, Uzbekistan is implementing a program of energy sector refurbishment and modernization. The first stage of it should be completed later this year. The program focuses on the refurbishment and retooling of the existing energy sector facilities, as well as upgrading the thermal power plants.[31]

Uzbekistan is showing keen interest in alternative energy sources as a way of diversifying its energy mix and reducing the load on its ageing power plants. One of these sources is uranium, which the republic has in abundance. Potentially it can fully satisfy the growing domestic demand

for electricity. Eventually Uzbekistan could become one of the leading exporters of not just uranium but also a much wider range of nuclear industry products and services.

According to IAEA statistics, Uzbekistan has the world's seventh-largest reserves of uranium and is the fifth-largest producer. Its proven reserves are in the area of 230,000t. Atomredmetzoloto, a Russian uranium holding company, places Uzbekistan among the leading world producers of uranium whose annual output is over 1,000t. The country has 27 large uranium deposits located in the Kyzylkum desert.

Uzbekistan currently operates a 10MW research reactor of the VVR-SM type, which was inherited from the former Soviet Union. For now, Tashkent has no plans to develop its own nuclear energy industry; all of the low-enriched uranium it produces is destined for export. But the availability of rich uranium reserves and skilled personnel in the country, as well as its aspiration to sell higher added-value uranium products, creates the necessary preconditions for Uzbekistan's involvement in the Central Asian nuclear energy initiatives.

The monopoly Uzbek uranium producer and exporter is the Navoysky Mining and Metallurgy Combine (NGMK). It includes the Severnoye Ore Company, which was set up back in 1958 in Uchkuduk. Uranium extraction here relies on the modern technology of underground leaching. Another NGMK division is the Yuzhnoye Ore Company, set up in 1964 to develop the Sabirsay uranium field in Samarkand Province. Yet another division is the No. 5 Ore Company in Zarafshan, Bukhara Province, set up in 1993.[32]

NGMK's long-term uranium program aims to launch production at seven new sites. Five of them are now at the stage of geological exploration. The company plans to invest $63.5 million in new uranium mines over the next five years. Another $12 million will be spent before the end of 2012 on upgrading its sulfuric acid production facility and increasing its output capacity. Experts estimate that the program will achieve a 50 percent increase in uranium production by 2012.[33]

Geographically Uzbekistan is relatively close to Russia, Ukraine, and Kazakhstan; the uranium it produces can therefore be brought to these markets quite cheaply. Tashkent is well aware of this, and aims to diversify its exports. The republic is becoming an important factor in the nuclear-energy geopolitics of the neighboring countries. It is using its uranium as a bargaining chip in its dealings with the leading world powers. It is seeking closer nuclear cooperation with the United States, but that has not prevented it from also pursuing partnership with Russia, China, Japan, and all the other countries which would be happy to secure uranium supplies from Uzbekistan.

In the early 1990s the republic had to resort to selling its uranium at bargain prices in an effort to attract foreign buyers. It managed to avoid losses by ramping up production by 50 percent and reaping the economies of scale. The main importer of Uzbek-produced uranium is America's RWE Nukem Inc. In 2005 the company wanted to set up a joint venture with NGMK to develop uranium fields in the Balkhashi–Vostochnoye–Taktonyk area in Central Kyzylkum. It was prepared to invest $25 billion in the project, but the deal fell through.

The reasons for this were never made public. Nevertheless, in 2004 RWE Nukem Inc. gave NGMK a $6 million loan to upgrade its uranium production facilities. In 2005 the size of the loan was increased to $8 million.[34] The two companies signed an agreement giving RWE Nukem some exclusive rights to uranium production in Uzbekistan—but the deal does not give the Americans any long-term guarantees of their privileged position on the Uzbek uranium market.

Russia too is becoming a major player in Uzbekistan. Nuclear industry cooperation between the two countries has had its share of problems. The nature of this relationship can best be described as ''trust but verify.'' During a tour of Central Asia in 2006 the head of Rosatom, Sergey Kirienko, proposed the idea of creating a united uranium mining company involving Kazakhstan, Uzbekistan, and Kyrgyzstan. The company would incorporate all the assets that formerly belonged to the Soviet Union's nuclear industry. Russia argued that such an arrangement would attract more investment in geological exploration, facilitate the discovery of new uranium fields, and foster the development of nuclear energy in the member-states.[35]

In 2006 Russia's Tekhsnabeksport and NGMK signed a protocol on creating a geological exploration and uranium production joint venture. The initial investment in the project was expected to yield an additional 500t of annual uranium production in Uzbekistan. But the two sides failed to reach agreement on the development of the Aktau field due to uncertainties over the Russian financing of the project.[36] Despite their differences, Russia and Uzbekistan are well

aware of the potential benefits of cooperation. When one takes into account Kazakhstan's intention to build three VBER-300 reactors jointly with Russia, the future of Russian–Uzbek and Russian–Kazakh nuclear industry cooperation seems quite promising.

Uzbekistan is also pursuing cooperation with the Asian nuclear industry leaders. In August 2009 China Guangdong Nuclear Power Co. (CGNPC) and the State Committee for Mineral Resources of Uzbekistan set up the Uz-China Uran joint venture to explore for black-shale uranium deposits in the Boztaus area of Navoyi Province. The venture's authorized capital is $4.6 million; each party owns a 50 percent stake. CGNPC URC provides the cash and equipment; the Uzbek side has contributed all the required information and geological exploration data for the site. The Chinese company will have the option to buy out all of the venture's produce, but it will have to pay world prices.[37]

Japan, too, has shown interest in Uzbekistan's uranium riches. In June 2009 Japan Oil, Gas and Metal National Corporation (JOGMEC) signed a joint uranium exploration agreement with the Uzbek Committee for Mineral Resources. Three sites have been chosen in Navoyi Province, some 200km northwest of Navoyi city. Another Japanese corporation, Mitsui&Co. Ltd., entered the Uzbek uranium market in August 2009. It will explore for uranium deposits in Zapadno–Kokpatasskiy District.[38]

Uzbekistan views greater cooperation with the world nuclear industry leaders as a chance to secure new markets for its uranium and to improve its mining and processing technology. But how far is the country prepared to go in developing its nuclear industry? Uranium exports are of course profitable—but not nearly as profitable as NFC services, which its neighbor Kazakhstan intends to start offering to foreign buyers.

So far, Uzbekistan has given a very lukewarm response to the Kazakh nuclear initiatives, which are viewed in Tashkent as little more than a political stunt. But it is obvious that the uranium riches of the Central Asian republics will be a powerful stimulus for them to develop regional cooperation in this area as well as pursue partnership with the nuclear industry leaders.

KYRGYZSTAN

The Republic of Kyrgyzstan's fuel and energy sector is heavily dependent on imports. The country's own energy resources make up only 2 percent of the total for Central Asia. The single most important resource is hydroelectric energy. The republic's 252 large and medium-size rivers are potentially capable of yielding up to 18,500MW of power, or 169 billion kWh of electricity annually. Kyrgyzstan's total installed generation capacity is 3,713MW. Hydroelectric power plants make up 79.5 percent of that figure (2,950MW). The remaining 763MW are provided by thermal power plants in Bishkek and Osh. Demand for electricity in the country is rapidly outpacing the launch of new power plants. Most of this demand is generated by households rather than industry, which sets Kyrgyzstan apart from the other Central Asian states. The output of the republic's coal mines, which feed the thermal power plants, is gradually declining, while the price of imported fuel keeps going up. Kyrgyzstan is therefore being forced to develop the remaining untapped hydroelectric power resources.

In summer Kyrgyzstan can dump enough water from the reservoirs of its HPPs to cover its domestic demand and even to export 2TWh of electricity to Uzbekistan and southern Kazakhstan. But during winter the flow of water from the cascades of reservoirs diminishes, just as demand reaches its seasonal peak. That forces the republic to import fossil fuel to the tune of 316GWh from Uzbekistan and Tajikistan.[39] The current strategy of the Kyrgyz energy sector is to develop its hydroelectric potential. That, however, means tampering with the flow of water in the rivers on which the neighboring countries downstream depend for irrigation. This problem is holding back many promising new projects; while energy-rich in theory, Kyrgyzstan remains energy-poor in practice.

Growing energy deficit and inability to reach an agreement with its Central Asian neighbors on new hydroelectric power projects are forcing Kyrgyzstan to look for alternative energy sources. In Soviet times the country had several uranium mines, but all of them have since been depleted and closed. The government is contemplating a program to develop new uranium fields and at some

point add nuclear energy to the country's energy mix. Several new fields have already been explored in the basin of the Sary-Dzhaz River. The Serafimovskoye deposit holds 8,222t of uranium (average ore grade 0.022%). Another 3,125t have been found at the Kyzyl-Ompulsk deposit (average grade 0.032%).

More than 10 American, Canadian, Australian, and Kazakh companies have already been issued about 40 separate uranium exploration licenses. Joint nuclear industry projects are being discussed with Russia and Kazakhstan. In 2001 the three countries agreed to set up a joint venture to develop Zarechnoye, a rich uranium field in Dzhambul Province of Kazakhstan. Kyrgyzstan will make its contribution mainly in the form of uranium-processing technology. The Kyrgyz partner in the joint venture is the Kara-Baltinskiy Mining Combine, which used to be the leading uranium ore processing company in the former Soviet Union. It remains an important supplier of uranium concentrate to Russian nuclear power plants. Over the past several years its output has remained steady; the combine processes about 450t of uranium ore from Kazakhstan each year.

TAJIKISTAN

The republic has found itself in the same situation as Kyrgyzstan. Here too hydroelectric energy makes up the bulk of the available energy resources (more than 80 percent). At present, only about 18 percent of economically viable hydroelectric resources are being used. The total installed capacity of the Tajik HPPs is 4,070MW, with an annual output of 17.1 billion kWh.[40] The four largest are Nurekskaya, Baipazinskaya, Vakhshskaya, and Varzobskaya NPPs. The republic also has fairly large reserves of coal, oil, gas, and uranium, but much of these are found in remote and inaccessible parts of the country, with difficult terrain to boot. This makes it difficult to estimate the size and quality of these reserves and conduct feasibility studies for commercial production.

According to the Tajik Energy Ministry's projections, the country's demand for energy will reach 28.3bln kWh per annum by 2020. The existing energy infrastructure is unable to meet this growing demand. Energy deficit had reached 600m kWh in 2009. The government is working on projects to refurbish and upgrade the existing HPPs, as well as to build new ones. The medium-term program for 2006–2010 included the completion of the Sangtudin-1, Sangtudin-2, Rogun, and Shurab HPPs. Their construction began back in the 1990s. According to government estimates, the program will achieve a 10 percent increase in the output of the existing plants and add 350MW–400MW of new capacity. The target set in the Energy Sector Strategy is to increase electricity generation to 35 billion kWh by 2015.[41]

These optimistic forecasts, however, will not come to pass if there is a repeat of the extremely harsh winter of 2008, when large parts of the country's energy and water infrastructure buckled under the strain. Catastrophic damage was avoided only by ramping up the output of the main hydroelectric power plants, which led to a sharp fall in the level of water in the Toktogul and Nurek reservoirs.

The social and economic consequences in the subsequent months were severe. Electricity generation dropped off sharply, industrial output shrank accordingly, agricultural fields in the countries downstream were starved of water, and Tajikistan's own towns faced rolling blackouts and interruptions in central heating. The only way to prevent a repeat of the crisis is to diversify the republic's energy mix, which is why the Tajik government is thinking about developing the nuclear energy industry and resuming uranium processing in the republic.

It has already passed some laws to facilitate that process. In 2008 the Tajik parliament approved amendments to the law ''On natural resources'' paving the way for investment in the development of uranium deposits.[42] Uranium exploration, extraction, and processing is a labor- and capital-intensive process. The amendments recognize the need to attract foreign investors to develop new deposits and lay the foundations for a national nuclear energy industry.

Tajikistan's Vostokredmet company began uranium processing in the 1940s; it continued for 60 years before the uranium mines in the republic were finally depleted. Vostokredmet now works with Russia's Atomredmetzoloto concern and Kazakh nuclear industry companies. In 1945 the

No. 6 Mining and Chemical Combine in Tajikistan produced and processed the uranium used in the first Soviet nuclear bomb. In the 1980s the world's first and only full-size solution reactor was installed in one of the Soviet nuclear facilities in the republic. The reactor, called Argus, was designed to test innovative technologies to produce isotopes for medical use.

But the event coincided with the Chernobyl disaster, and the reactor was never launched. In any event, it had low energy output and could enrich only 0.5g of uranium per year. During a visit by IAEA Deputy Director-General, Ana Maria Setto, in 2007 Tajikistan said it was willing to dismantle the reactor, but in return it asked the agency for a modern new electron accelerator, which can serve the same purposes. The IAEA said it was prepared to give Tajikistan free of charge a $1.5 million accelerator which can be used to analyze mineral samples. But IAEA experts insisted that they should be allowed to monitor the dismantlement of the Argus reactor.[43]

After the Tajik uranium mines were depleted, uranium ore was brought for processing from Uzbekistan, Kazakhstan, Kyrgyzstan, and countries outside the former Soviet Union. Over the 60 years the industry had produced 50 million tonnes of radioactive waste, stored rather haphazardly in so-called tailing dumps in the north of the country.[44] The dumps were not shielded properly with dams, and no measures were taken to prevent the radioactive waste from filtering into the subsoil.[45] The dumps were built not only in Tajikistan but also in Kyrgyzstan, Uzbekistan, and other Central Asia republics where uranium was produced in large quantities. The residual uranium content in these dumps is quite low, but the damage they cause to the environment is severe.

Nevertheless, growing international demand for energy resources means that reprocessing the waste ore in the tailing dumps is becoming commercially viable. The Central Asian republics also see such reprocessing as a way of getting rid of the dumps and improving the environmental situation. But the process is costly, and for now investors remain wary of such projects. Meanwhile, the Tajik government insists that not all the uranium fields in the republic have been depleted. It is trying to attract foreign investors to develop new deposits, which have yet to be proved to contain commercial-grade ore in sufficient quantities. According to the Agency for Nuclear and Radiation Safety under the Tajik Academy of Sciences, new fields have been found in Pamir and in the Rashta and Gissar areas. But these locations are remote and inaccessible, so the new fields are yet to be fully explored.

Russia has been the first country to respond to Tajikistan's invitation to invest in the republic's uranium industry. In August 2008 Rosatom said it was interested in resuming the production of uranium in Tajikistan. It has also voiced proposals to set up joint ventures with Tajik partners to build small (100MW–300MW) nuclear power plants. The Russian corporation intends to pursue its overall strategy of bringing together all the available uranium mining, conversion, and enrichment assets. The eventual goal is to create a single company offering the full range of nuclear fuel cycle services. Such an initiative could be fairly attractive to those Central Asian republics which cannot hope to acquire all the stages of the nuclear fuel cycle. It has the potential to accelerate the development of nuclear energy in the region.

Meanwhile, during Tajik President Emomali Rakhmonov's official visit to Beijing in August 2008 China expressed its interest in the Tajik uranium deposits. Iran too has expressed interest in developing nuclear cooperation with Tajikistan and using the uranium-processing capacity of Vostokredmet. Overall, the situation in the Tajik uranium industry appears fairly unusual. Foreign companies are declaring their willingness to invest in the development of new uranium reserves in Tajikistan—but these reserves have yet to be officially proved. The Tajik government, however, appears to think that this is nothing out of the ordinary; it is now trying to choose the most attractive investment proposals.

* * *

If the Central Asian republics are to overcome their current energy problems, they will need not only to renovate and upgrade their existing generation capacity but also to build new power plants. Oil-rich Kazakhstan and Uzbekistan need to build new refineries in order to increase the share of oil in their energy mix. More investment is required in prospecting for new fossil fuel resources. Energy resources in Central Asia are seriously underexplored. That makes it difficult to attract new investment in the region's energy sector.[46] If the region is to become self-sufficient in terms of energy supplies, it will have to diversify its energy mix by making use of alternative energy

sources. The Central Asian republics have ambitious plans not only to end their reliance on electricity imports but also to become net exporters. The search for viable alternative energy sources is therefore becoming an important national priority.

ASIAN NUCLEAR RENAISSANCE

In the nuclear energy industry the competitive advantage belongs to those countries that have large uranium reserves and can provide the full range of NFC services, from uranium exploration to enrichment and processing of nuclear waste. Most of the international companies working in this industry are pursuing the strategy of creating large alliances. There are now four big international players: Toshiba/Westinghouse/Kazatomprom, Areva/Mitsubishi, Rosatom, and General Electric/Hitachi.[47] Over time the list will grow to include new players who have access to uranium resources and/or relevant technologies and skills.

Each of the Central Asian republics is already equipped to become part of the international nuclear energy industry. Kazakhstan and Uzbekistan, with their rich uranium fields, can contribute the first link in the NFC chain—uranium mining. Kyrgyzstan's and Tajikistan's proposals to glean uranium from the tailing dumps can also become viable, provided that they can find investors. The two republics can also resume uranium mining if the ongoing exploration efforts yield new commercially viable deposits.

Meanwhile, Kazakhstan's demand for uranium will grow once the VBER-300 reactors are launched. Some of that demand will have to be covered by imports. Securing supplies from the neighboring Central Asian republics could be preferable to shipping the uranium from afar. Kazakhstan has free trade agreements with all its Central Asian neighbors. Their geographical proximity will help to reduce transportation, customs, and logistical costs. Given the prospect of all the republics in the region becoming part of a common nuclear fuel cycle chain, Kazakhstan might well secure uranium supplies at discount prices in return for charging its neighbors less for the nuclear-generated electricity they will import.

All of the Central Asian republics have uranium ore processing plants, so each can be involved in that part of the NFC chain. The experience of operating research reactors accumulated by Uzbekistan and Kazakhstan can come in handy during the launch and operation of the VBER-300 reactors in Kazakhstan. For a time, these reactors will be the only source of nuclear-generated electricity in the region. Kazakhstan also has the technology for manufacturing fuel pellets, which form the core of nuclear fuel assemblies, so this is another important part of the NFC that can be claimed by the Kazakh nuclear industry.

Talking about the future of nuclear industry in the region one has to take into account the fact that the national grids here are interconnected, forming the United Energy Grid of Central Asia. The overall length of the system's backbone transmission lines is 1,400km. Almost all the power plants in the region are connected to the UEGCA by super-high-voltage 500kV transmission lines. The availability of an extensive network of high-capacity transmission lines makes it much easier to build nuclear power plants. The medium-size VBER-300 reactors will be built in the south of Kazakhstan, which is connected to the UEGSA by several BTLs. That will make it easier to connect the reactors to the UEGSA ring and export nuclear-generated electricity to all the Central Asian republics. The UEGCA is the basis of the regional electricity market. The addition of nuclear power generation to this common system will improve the reliability of electricity supply throughout the region. Preserving the UEGCA is therefore in the interests of every nation in Central Asia.

There is an obvious potential for the creation of a Central Asian nuclear energy industry. However, not a single country in the region has the technology for uranium conversion, enrichment, or nuclear fuel manufacturing. They will have to pursue cooperation with large international suppliers of fuel for NPPs, which have all the required nuclear fuel cycle technologies. This is the only way the Central Asian republics can gain the necessary experience and lay the foundations for future partnership with these companies. Even if Central Asia acquires the complete nuclear fuel cycle using technologies supplied by foreign countries, it will not be ''Central Asian'' in the proper sense. The nuclear fuel cycle in Central Asia will more likely take the form of a transnational integrated company. That company will incorporate the existing nuclear facilities in the region, but also work in close cooperation with international corporations specializing in nuclear fuel cycle services.

Some experts argue that the Central Asian republics do not need nuclear energy because their industrial output is quite low by international standards, and nuclear power plants will simply produce more energy than these countries really need. But analysis of the structure of electricity consumption in the region shows that the biggest consumers of electricity here are industry and agriculture (Figure 1). All the Central Asian republics aim to increase their industrial output as the basis of sustainable development, so their electricity consumption is likely to grow quite strongly. In addition, population growth in the region is also fairly rapid, which translates into growing demand for energy. At present households consume almost as much electricity as industry. It is therefore unlikely that the construction of nuclear power plants will lead to a glut of energy in the region.

If ever the Central Asian republics find themselves in possession of more electricity than they need, they can always export the surplus. The potential markets include Russia, Ukraine, the EU, India, China, Afghanistan, Pakistan, and Iran. Asian markets are also very attractive—their demand for electricity peaks in summer, just when the Central Asian republics have a surplus of power-generation capacity.

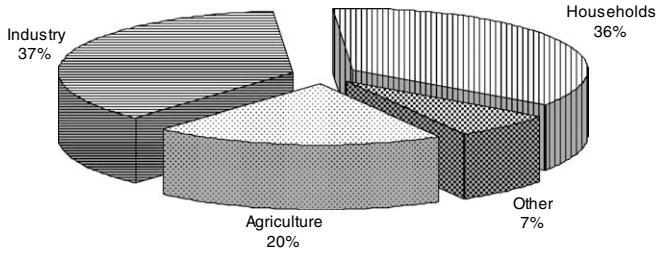
It cannot be ruled out that, having entered the Central Asian uranium market, large multinationals will gradually buy up the local nuclear energy industry. Such a development would have a number of advantages. The technologies and experience of the large corporations will speed up the creation of the complete nuclear fuel cycle in the region and help to adapt it to the various reactor designs. The multinationals will also end the price-dumping practices, which the Central Asian produces often resort to in an effort to win customers.

As they progress in their programs to develop nuclear energy, the Central Asian republics will face the choice of whether to acquire the complete nuclear fuel cycle on their own or become part of the nuclear fuel cycle chain operated by the multinationals. In these countries choose the former, they will have to spend a lot of time and financial resources, but in the end they will become independent players on the world market for nuclear products and services. If they choose the latter, they will be able to set up joint uranium enrichment ventures with foreign partners relatively quickly—but they will always be dependent on these partners. In any event, one thing is clear: without making use of international experience of nuclear energy development the Central Asian republics will not be able to tap their own nuclear energy potential.

NUCLEAR WASTE DISPOSAL AND URANIUM TAILING DUMPS

One serious problem Central Asia will have to overcome if it wants to develop nuclear energy is the Chernobyl syndrome. The public in these countries tends to be very apprehensive of any nuclear initiatives. There is also the legacy of the nuclear weapons tests in Semipalatinsk, which were kept secret from the local population, and the uranium tailing dumps left by the Soviet nuclear weapons industry. In addition, the republics will need to find a way of disposing of newly generated nuclear

Figure 1. **Structure of Energy Consumption in Central Asia**



Source: Central Asia Regional Electricity Export Potential Study. *Europe and Central Asia Region World Bank,* December 2004, <http://siteresources.worldbank.org/INTUZBEKISTAN/Resources/REEPS_Main_Report_Final_English.pdf>, last accessed November 20, 2010.

waste if they choose to develop nuclear industries. All of these factors can potentially become insurmountable obstacles.

Every country that chooses to build nuclear power plants faces the problem of nuclear waste disposal. According to IAEA data, some 10,500t of nuclear waste is being generated on the planet every year. About one-third of is reprocessed to recycle usable uranium and plutonium. The remaining two-thirds is being kept in interim storage, until a long-term solution can be found. Many experts believe that the technology for permanent burial is already within reach—but in practice, no one has come up with a safe geological burial solution.[48]

Kazakhstan has already launched efforts to create its own nuclear fuel cycle, so it is about to face the same problem. Kazatomprom, which is implementing the strategy of building a transnational integrated nuclear industry company, says it intends to participate in every stage of the NFC except for the reprocessing and burial of radioactive waste. It is not clear how and where exactly Kazakhstan intends to have its nuclear waste reprocessed and buried. But if the country acquires its own nuclear fuel cycle, this problem will have to be resolved, one way or another.

Kazakhstan's declaration that it will not process or bury radioactive waste on its own territory is at odds with President Nazarbaev's earlier stance. In 2001 he advocated taking in other countries' waste to process and bury in Kazakhstan. The initiative was supposed to generate substantial income and allow Kazakhstan to sort out the problem of its own waste stockpiles in the process. Forty years of Soviet nuclear tests in the republic, as well as Kazakhstan's industrial and research reactors, the uranium industry, and non-uranium mines have produced a total of 237.2 million tonnes of radioactive waste, with radiation contents of 15.5 million Ci.[49]

Safe burial of all that waste and regeneration of storage sites would require an estimated $1.1 billion. Kazakhstan was unable to afford more than a million dollars at the time Nazarbayev's initiative was proposed. That initiative contained a proviso that only low- and medium-grade waste would be received from other countries because such waste supposedly does not contain any plutonium. But according to the World Nuclear Association, such waste does contain plutonium, whose half-life is 24,000 years.

Part of the complexity of the nuclear waste disposal problem is that the boundaries between the various categories of waste are blurred. Reactors of different designs work on different types of nuclear fuel. The Kazakh environmental organizations used the absence of any international classification standards for nuclear waste as an argument against taking in other countries' waste.

The Kazakh public was also less than enthusiastic. As a result, the initiative was never implemented. But if Kazakhstan acquires the national nuclear fuel cycle the problem of nuclear waste disposal will once again come to the fore. At present, less than 40 percent of nuclear waste produced globally is reprocessed. Industrial-scale reprocessing is conducted in Russia, the UK, France, and Japan. In the United States it is banned by law. Given that most of the countries developing nuclear energy do not have the complete nuclear fuel cycle, the number of nuclear waste stockpiles on the planet is likely to continue to increase.[50]

For Kazakhstan and, at some point, other Central Asian republics that join the nuclear energy initiatives it will be very important to develop cooperation with the countries that have the capacity to process and dispose of nuclear waste. It must be taken into account that processing facilities in different countries are adapted to process nuclear waste from reactors of a particular range of size and output capacity. Since Kazakhstan intends to build small and medium-size reactors, it should work with Russia, which has the technology to process nuclear waste generated by VVER-440 reactors. This design falls into the same medium-size category of reactors as the VBER-300 units chosen by Kazakhstan.

Another serious question, which has long been ignored or hushed up in Central Asia, is what to do with the existing uranium tailing dumps. The term is used to describe specially equipped storage sites for waste and byproducts—some of them radioactive and/or toxic—of processing uranium ore. The ore-processing plant produces uranium concentrate, while the waste ore—also called tailings—is moved to the tailing dump. The site for the dump is usually chosen a few kilometers from the enrichment plant in various natural declivities such as pits or gorges, which are then enclosed with the help of a dam.

The first tailing dumps in Central Asia were set up during the very early years of the Soviet nuclear industry, when the dangers posed by waste uranium ore were not fully realized. These dumps now

hold huge amounts of ionium, radium, and residual uranium and its long-lived isotopes. The choice of the locations for these sites, their design, and confinement measures were not adequate to the environmental hazard posed by the nuclear waste they hold. Some of the dumps are located in dried-up river beds, in seismically active zones and areas prone to mudslides. These mudslides and floods can cause deformation of the river beds, erode the dams, and carry radioactive dust to populated areas.

In Kyrgyzstan the dumps requiring the most urgent attention are Mayluu-Suu, Min-Kush, Kadzhi-Say, Kara-Balta, and rare-earth dumps including Orlovka, Kashka, and Ak-Tyuz. Tajikistan has eight dumps situated near the population centers of Taboshar, Chkalovsk, Gafurov, Adrasman, and Degmay. In Uzbekistan there are uranium mines near the towns of Navoi, Uchkuduk, Yangiabad, and Chorksar. In Kazakhstan the problem areas include Kokchetav Province, the Kokroyskiy and Mandybayskiy sites, and the Koshgar-Atinskoye tailing dump.[51]

The natural level or radiation in the air is 4–35 micro-roentgen per hour (mrph). Near the uranium tailing dumps radiation readings are several times as high. Studies in Kyrgyzstan found 60mrph–900mrph in some residential districts not far from the dumps. The country has a total of 72 radioactive waste storage sites holding a total of 130 million m^3 of solid radioactive waste, including two million m^3 of waste generated by the uranium industry. These sites cover an area of 650 hectares. The most immediate danger is posed by 35 tailing dumps holding 48.3 million m^3 of tails. Almost all the existing tailing dumps stopped receiving new waste in 1966–1973.

There is a great risk of cross-border radioactive contamination in most of the Fergana Valley, where the borders of Uzbekistan, Kyrgyzstan, and Tajikistan meet. The tailing dump on one of the banks of the Mayluu-Suu river can contaminate the much larger river of Syrdarya, on which all the Central Asian states depend for much of their water supply. The Mayluu-Suu is a tributary of the Syrdarya in the upper Fergana Valley. If waste from the dump is washed into the tributary, it will eventually end up in the Syrdarya and then spread throughout much of the valley. Any mudslide or landslide therefore poses the risk of radioactive contamination of large territories, including population centers.

In Tajikistan there is more than 170 million m^3 of spent uranium ore. The country's tailing dumps hold about 55 million tonnes of radioactive waste. Much of that waste was generated by processing ore brought from outside the republic, including some Eastern European countries. Most of these uranium tailing dumps in the country are not covered from the top and therefore constantly produce radioactive and toxic dust.

In Uzbekistan uranium ore from sandstone deposits was processed in Kyzylkumy at the Navoi Mining and Chemical Combine. The country's largest tailing dump is situated close to that combine and the city of Navoi. It holds about 57 million tonnes of solid waste and covers an area of 637.1 hectares. There are also several abandoned uranium mines in Uchkuduk, Yangiabad, and Chorkesar.

In Kazakhstan most of the radioactive waste was generated at the Semipalatinsk range during nuclear weapons tests. The sites requiring the most urgent attention include the tailing dumps in Kokchetav Province and Agashskiy and Koksorskiy areas, an ore pit in Manydayskiy site, the tailing dump of the Stepnogorskiy hydrometallurgical plant, and the Koshgar-Atinskoye tailing dump near the town of Aktau. Differences in the climate across this large country impose special requirements for the regeneration of each of these sites. As part of its efforts to cope with the country's dangerous uranium heritage, the government is implementing a special program called ''Regeneration of the territory of uranium producing companies and amelioration of the consequences of uranium production for the period 2001–2010.''

The risks posed by the tailing dumps are compounded by the fact that the local population is often poorly informed and unaware of the dangers. For example, the large tailing dump in Sumsar (not far from Shekoftar) is used by the local villages as a hippodrome and a grazing field. Some of the locals also scavenge for metals here. In Maylu-Suu a villager used the nearby No. 6 tailing dump to grow maize, which he then sold at the local market. Ore from the uranium pits and mines, which often contains highly radioactive clumps, is sometimes used as filler in the foundations of private dwellings. To make matters worse, even the governments do not have the necessary experience to deal with this waste material. They also lack the financial and technical resources to keep the dumps safe or regenerate their territory. On the regional and national level, there is no proper exchange of information to help reduce the environmental impact of radioactive waste.[52]

Kyrgyzstan and Tajikistan have on several occasions proposed initiatives to discuss the problem on the international level. Ways of dealing with the Central Asian tailing dumps were discussed in June 2009 in Geneva at an international forum headlined ''Uranium Tailing Dumps in Central Asia: Local Problems, Regional Consequences, Global Solution.''[53] The forum helped to achieve international recognition of the seriousness of the situation. Several EU countries expressed their willingness to provide financing. But after a while, the momentum was lost. That was due in part to the lack of a common approach to the situation with the tailing dumps by the Central Asian republics themselves. Some of them, such as Kazakhstan and Uzbekistan, believe the problem is too politicized and somewhat exaggerated. Others, including Kyrgyzstan and Tajikistan, think that this is a matter of the utmost urgency.

Measures that are being considered to solve the problem of uranium tailing dumps in Central Asia include secondary reprocessing of radioactive waste. Analysis of waste ore samples from the Mayluu-Suu dumps showed residual uranium content ranging from 0.005 percent to 0.03 percent. The feasibility of secondary reprocessing will depend primarily on the cost of extracting that residual uranium.[54] The necessary technologies are available. The Kara-Baltinskiy Mining Combine in Kyrgyzstan and the Vostokredmet company in Tajikistan are both equipped to reprocess the waste ore from the tailing dumps. But the costs would be high, so most experts believe that residual uranium is not what the reprocessing technologies should focus on.

The waste ore in the uranium tailing dumps is also a potential source of other metals, such as silver, cobalt, chromium, copper, molybdenum, titanium, tantalum, nickel, zinc, and vanadium. But their extraction is also likely to prove quite costly, so turning a profit on such a project could be difficult.

But regional experts believe that the social benefits of secondary reprocessing of uranium waste would outweigh any direct financial losses. Such projects may not be able to turn a financial profit, but they would be worthwhile economically once the social implications are taken into account. There is a high risk of radioactive and toxic material being released from the ageing tailing dumps as a result of a natural disaster of human activity. Such an event would have massive economic, political, and humanitarian repercussions, potentially triggering a decline in the mining regions and jeopardizing the economy of the entire Central Asia.

Any program to develop nuclear energy in the region must necessarily provide an answer to the question of what to do with nuclear waste, both newly generated and that contained in the old uranium tailing dumps.

It appears that the best way out of the situation is for the Central Asian states to pursue cooperation with the countries which already have the technology to process radioactive waste produced by small and medium-size reactors, such as the ones Kazakhstan is planning to build.

Secondary reprocessing is also a potentially viable solution, provided than investors can be found. Such reprocessing is going to be costly, but the resulting social benefits could far outweigh any financial losses. It is also important to launch an information campaign explaining to the public the dangers posed by the tailing dumps and the measures that must be taken to avoid them. The health risks posed by these dumps could potentially jeopardize the prosperity of the entire region.

Analysis of the prospects for the development of nuclear energy in Central Asia reveals that there are potential problems. But on the whole, creating a pan-Central Asian nuclear fuel cycle would make the whole system more reliable and robust. The governments of the republics must realize that only through cooperation with their neighbors in the region can they turn Central Asia into a large and attractive nuclear energy market. In the absence of such cooperation, even the most promising initiatives are doomed to failure.

CONCLUSION

Disputes over energy in Central Asia are becoming a source of constant risks and threats, destabilizing the situation in the whole region. The exit of Turkmenistan, Uzbekistan, and Kazakhstan, the main producers of electricity in the region, from the UEGCA could lead to a serious deterioration of regional energy security.

The overall state of the Central Asian energy industries leaves much to be desired. Energy waste at every stage, from fuel mining to the end-user, has reached dangerous levels. Many power

Figure 2. **Radioactive, Chemical and Biological Map of Central Asia**

Source: Philippe Rekacewicz, ''Environment and Security: Transformation Risk into Cooperation— Central Asia— Ferghana/Osh/Khujand Area,'' UNEP/GRID-ARENDAL. May 2003, <http://maps.grida.no/go/graphic/radioactive_chemical_and_biological_hazards_in_central_asia>, last accessed January 10, 2011.

plants and transmission lines require urgent repairs and upgrades; new ones are needed to end the energy deficit. Primary fuel processing technologies used in the republics are hopelessly out of date. As a result, the region is facing energy shortages and is heavily dependent on imports of electricity.

In order to increase electricity production, the republics need to renovate their existing thermal and hydroelectric power plants, as well as to build new ones. Diversifying the energy mix can be done by building nuclear power plants.

The Central Asian states have rich reserves of uranium and modern mining technologies. Some of them are large uranium exporters. They also have the experience of operating the research reactors built in Soviet times. Many have retained skilled nuclear industry personnel. There is also an understanding in Central Asia that uranium can be converted into high-tech produce rather than being sold cheaply in the form of uranium ore. Large reserves of uranium can become the basis for a successful nuclear energy industry in Central Asia and help the republics find the way out of the energy deadlock they have found themselves in.

But in order to put these riches to good use, the Central Asian states will need to pursue regional nuclear industry cooperation that would involve all the existing nuclear assets. Nuclear reactors can diversify the region's energy mix and become and alternative to controversial projects for building new hydroelectric plants. In addition, the reliability and safety standards applied to NPPs translate into an average service life of 60 to 80 years, which is much longer than the life of a thermal power plant (25–30 years) or a hydroelectric plant (20–30 years).[55]

If the Central Asian states pool their efforts in developing nuclear energy they can speed up the implementation of the programs to build nuclear power plants and win a share of the world uranium market as suppliers of nuclear fuel cycle services rather than mere uranium exporters.

Nuclear plants are the cleanest and environmentally safest source of energy. The relatively high costs of building them will soon be recouped because uranium prices are not going to rise as sharply as the price of fossil fuels.

Kazakhstan intends to be the first Central Asian republic to build a nuclear power plant and eventually create a national nuclear fuel cycle. It has chosen the VBER-300 reactor design, which requires a minimum of pre-existing infrastructure to operate.

The republic has not yet acquired uranium enrichment and nuclear fuel manufacturing technologies. It will therefore need to pursue cooperation with international suppliers of nuclear fuel and NFC services.

As Kazakhstan progresses in the development of its nuclear energy sector, its own uranium resources may turn out to be insufficient. The country will then have to rely on imports. Its neighbors in the region, which have large reserves of their own, could become the main suppliers of uranium for the Kazakh nuclear industry. The Kazakh nuclear energy initiative may therefore eventually involve all the Central Asian republics. That will speed up the construction of nuclear power plants and allow the creation of a pan-Central Asian nuclear fuel cycle.

Each Central Asian republic can find a place for itself in the international nuclear supply chain. Each already has some of the relevant technologies. A mutually complementary pan-Central Asian NFC chain can become the basis of a safe and efficient regional nuclear industry. Nuclear energy can be the answer to the ongoing energy deficit in Tajikistan and Kyrgyzstan. It can also put an end to tensions between Uzbekistan and Tajikistan over the building of new hydroelectric plants and the modes of operation of the existing ones.

As they progress in their efforts to develop nuclear energy, the Central Asian republics will face the choice of whether to develop a complete nuclear fuel cycle on their own or become part of the nuclear fuel cycle chain owned by the multinationals. If they choose the former, they will have to expend a lot of time and financial resources, but in the end they will become independent players on the world market for nuclear products and services. If they choose the latter, they will be able to set up joint uranium enrichment ventures with foreign partners relatively quickly—but they will always be dependent on these partners. In any event, one thing is clear: without using international experience of nuclear energy development the Central Asian republics will not be able to make use of their own nuclear energy potential.

Another thing to consider is that the preservation of the existing United Energy Grid of Central Asia will make it easier to connect the new nuclear power plants to the transnational backbone transmission lines and export electricity to all the republics in the region. It is therefore in the interests of all the Central Asian states to keep the UEGCA up and running.

The difficulties of nuclear energy development in Central Asia are primarily political. Countries in the region need to reach a consensus on a whole range of contentious issues. They also need to realize that regional cooperation is the best way of making Central Asia an important and reliable player in the global arena.

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The ways of ensuring the security of nuclear materials and countering nuclear terrorism were the key issues of the two most significant nonproliferation events in 2010 – the Nuclear Security Summit in Washington and the NPT Review Conference in New York. What is the link between nuclear nonproliferation and security of nuclear materials? How different are the Russian and U.S. approaches to these problems? And how could contemporary Russia adopt the international experience?

*These and many other questions were addressed by the participants of the round table discussion: Professor, Head of the 12th Central Research Institute of the Russian Ministry of Defense Rear Admiral Sergey **Pertsev**; Deputy Head of the Department of Security and Disarmament of the Russian Foreign Ministry Oleg **Rozhkov**; Deputy Director of the Moscow Office of the U.S. Department of Energy Jon **Shearer**; Deputy Head of the International Cooperation Department of the State Atomic Energy Corporation Rosatom Alexey **Ubeev**; Director of ANO Aspekt-Conversion (Center for Cooperation in Conversion for Decommissioning of Weapons and Military Hardware) Evgeny **Maslin**; Consultant of Booz Allen Hamilton Inc. (Moscow Office) Dmitry **Kovchegin**; Head of the Laboratory in the Nuclear Safety Institute (IBRAE) of the Russian Academy of Sciences Sergey **Antipov**; Senior Vice President of PIR Center Lt. Gen. (rtd) Gennady **Evstafiev**; PIR Center President Vladimir **Orlov**.*

SERGEY PERTSEV (RUSSIAN MINISTRY OF DEFENSE): For the foreseeable future nuclear weapons will remain a key element of the Russian armed strength and an important instrument of safeguarding our country's national interests and security. However, the very nature of those weapons poses a real threat to our country, our people and the entire mankind in the event of a nuclear accident, man-made disaster or an act of sabotage. Ensuring nuclear and radiation safety and security of nuclear weapons at every stage of their life cycle (from development to manufacture, operation, dismantlement and disposal) has always been and will always remain a matter of national importance.

Nuclear safety and security of the nuclear weapons complex depends on the following factors:

- proper and carefully monitored implementation of all the nuclear safety and security requirements stipulated in relevant regulation documents;
- good working order of all the nuclear-related instruments, devices and equipment, monitoring systems, packaging, buildings and premises, transport and communications;
- high qualification of personnel, discipline and safety culture; and
- well-trained and equipped forces that can localize and eliminate the consequences of any accidents which may occur during nuclear-related operations.

Safety and security of all nuclear warheads and ammunition is gradually improving as governments introduce new computerized accounting and control systems for nuclear materials and better security systems. The current level of organizational and technical measures makes it possible to rule out an accidental or unauthorized nuclear detonation during every stage of normal

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operation as well as in emergency situations. In essence, nuclear munitions have become as safe as conventional ones.

Russia is well aware of the tremendous responsibilities of being a nuclear power. Safety and security of nuclear weapons is a matter of national priority. In the new social and political situation maintaining that safety and security requires timely and effective everyday solutions. In 1996 the Russian government adopted a resolution entitled ''On priority measures to ensure safety and security of nuclear weapons''. In accordance with that resolution, Russia has introduced a state system of ensuring safety and security of nuclear weapons. Organizationally this structure is based in the existing Russian ministries, agencies, services and organizations that are involved in designing, testing, manufacturing and operating nuclear weapons, as well as in their transportation, security, elimination and disposal, in protecting those weapons from nuclear terrorism and maintaining a system of nuclear supervision.

The system encompasses all levels of government and is designed to implement government policy on ensuring the security and safety of nuclear weapons. The functioning of the state system of ensuring the security and safety of nuclear weapons is based on the principles of personal responsibility of officials for the security of nuclear weapons in their remit.

Ever since nuclear weapons were created, any accident involving a nuclear weapon is treated as an emergency. It must also be taken into account that any such accident would have major geopolitical repercussions, and the cost of dealing with the aftermath would be enormous.

The Russian Federation has a state system of prevention and liquidation of emergency situations. Given the special nature of the measures required to deal with incidents related to nuclear weapons, this state system has a functional subsystem designed specifically to deal with such incidents.

This functional subsystem of response to nuclear weapons related incidents is based on special emergency services and formations of the *Rosatom* state nuclear energy corporation and the Ministry of Defense, as well some other agencies as per their special areas of expertise. The Ministry of Defense and *Rosatom* hold regular joint exercises to test the system's efficiency and viability.

In 2004 the Russian Armed Forces and the Federal Agency for Nuclear Energy held the *Avariya-2004* exercise. Some 48 observers from 17 NATO member states were present. The aim was to demonstrate to the international community the entire range of measures and systems Russia has in place to deal with incidents related to the safety and security of nuclear weapons. Our country has shown that the safety and security of the Russian nuclear arsenal is up to the most demanding world standards, and in some areas (such as resilience of nuclear weapons to unauthorized use) Russia is the world leader.

The reliability of our nuclear safety measures depends to a large extent on the legislation and regulation introduced by the federal legislative and executive authorities. Russia is working hard to improve its nuclear security and safety legislation and regulation, which is based on the Constitution of the Russian Federation, international agreements, treaties and conventions, as well as the whole body of Russia's nuclear, environmental, social and other legislation. The Russian Ministry of Defense is working to improve nuclear safety and security measures at its nuclear facilities as part of the plan to implement the first stage of the ''Basics of State Policy on Nuclear and Radiation Safety in the Russian Federation until 2010 and in the Longer Time Frame''.

The Russian Federation continues to improve and update its legislation and regulation at all levels, from the federal (laws, strategies and concepts) to agency level. This system of legislation and regulation encompasses all the issues of nuclear weapons security and safety at every stage of their life cycle, from creation to storage in the nuclear arsenals to decommissioning and disposal.

As the threat of international nuclear terrorism continues to grow, the Ministry of Defense takes all the required measures to ensure **physical security** of nuclear weapons storage facilities and their **resilience to terrorism**. The system of ensuring the security of the Russian nuclear arsenal is based on protecting and guarding the Russian nuclear facilities using the best available technology. The weapons are guarded and protected not only at the storage sites but also during their transportation to other facilities for dismantlement and disposal.

The Ministry of Defense is implementing a program of phased improvement of security technology at its nuclear facilities, from the actual nuclear weapons storage rooms to the perimeter of nuclear facilities, i.e. the so called integrated complexes.

The projects to improve physical security and protection of the Ministry of Defense nuclear weapons storage sites are being implemented as part of the State Military Procurement Program (MPP) and international cooperation programs.

As part of the MPP the Ministry of Defense is improving physical security and protection systems and its nuclear facilities under the ''Unified Plan of Works to Improve the Physical Security and Protection of the Sensitive Facilities of the Russian Armed Forces for the Period of 2004–2015''.

Integrated engineering and technological security systems play a special role in ensuring the resilience of nuclear facilities to terrorism. The main objectives of these systems include early detection of terrorists and saboteur groups, prevention or delay of unauthorized actions, assessment of the situation and correction of the actions of security details as they conduct combat actions to interdict and destroy the attackers.

Ensuring the security and safety of nuclear weapons is increasingly becoming an international problem. Russia is actively integrating itself into the international legal system in the area of nuclear security and safety. International cooperation in this area pursues the following main objectives: reducing the threat of a nuclear conflict; improving the mechanisms of preventing the proliferation of nuclear weapons; nuclear weapons reductions and elimination on a multilateral basis; providing mutual assistance in the event of a nuclear accident.

One of the key outcomes of the G8 summits in recent years has been the Global Partnership against the proliferation of weapons and materials of mass destruction and the adoption of the G8 action plan to prevent the proliferation of weapons of mass destruction. The existing positive experience and the tangible results of such partnership that have already been achieved have enabled Russia to introduce a lot of advanced technology, including emergency and rescue equipment, supercontainers, radiation metering systems, polygraphs, instruments to detect drugs and alcohol in the human body, computer equipment.

The most valuable practical assistance in improving the safety and security of nuclear weapons storage and transportation has been provided by the United States and Germany. Cooperation with these countries began in 1995 and 2003 respectively, based on intergovernmental and interdepartmental agreements.

Thanks to cooperation with the United States, Russia has upgraded the security and safety technology at dozens of MoD nuclear weapons storage sites (including the sites operated by the Navy, the Strategic Missile Troops and the 12th Main Directorate of the MoD). Projects to introduce advanced technology are currently under way at several more facilities. Funds have been allocated to pay for the transportation by hundreds of special trains of nuclear ammunition to *Rosatom* facilities for disposal.

As part of cooperation programs with Germany, Russia is currently upgrading the security technology at three nuclear ammunition storage facilities operated by the 12th Main Directorate.

All the storage facilities are now equipped with obstacle belts and trespasser detection instruments, as well as modern security complexes that meet all the Russian and international requirements. I would like to stress that our ability to ensure the required level of security at our nuclear arsenals has been the main and the most important outcome of implementing international cooperation programs in this area.

Over the next several years we are planning to complete the modernization of security complexes at the nuclear weapons storage facilities.

At the G8 summit in St Petersburg in July 2006 the presidents of Russia and the United States proposed an initiative that was later formulated as the Global Initiative to Combat Nuclear Terrorism (GICNT). The Russian MoD is actively involved in the implementation of the GICNT initiative. Our experts are working to improve the ''Guidelines for the Architecture of Nuclear Detection''. The draft guidelines were released in April 2010. This is the first important practical achievement after three years of work on the initiative.

It would make sense for representatives of Russia and the United States, the two founding members of the GICNT, to review and improve the ''Guidelines for the Architecture of Nuclear

Detection'' once again in a bilateral format and then submit the joint version of the document for the approval of all the members of the initiative.

The position of the Russian Ministry of Defense on the nuclear security problem is clear: Russia is taking all necessary measures to ensure reliable security and protection of its nuclear arsenals. We have been implementing those measures since the late 1980s and early 1990s, taking into account new trends in the rapidly changing political, social and economic situation in Russia itself and internationally. In the early 1990s all Soviet nuclear weapons were removed from the territory of the former Soviet republics. We have also optimized the number of nuclear weapons storage sites and their location, including the facilities where weapons designated for disposal are stored.

Security and safety of nuclear weapons has always been and will always remain a major factor of our national security. This is a difficult organizational and technical challenge. It is being addressed using a whole range of measures. At present, I can say with confidence that the Russian nuclear arsenals are safe and secure.

Taking into account all the international trends, areas for further improvement of safety and security of nuclear arsenals include measures to improve the resilience of these arsenals and of the nuclear weapons themselves to various emergency situations and attempts at unauthorized use. We also need to continue to improve the system of preventing terrorist attack against nuclear facilities, augment the existing security and protection systems, and introduce new modern physical security measures.

OLEG ROZHKOV (RUSSIAN FOREIGN MINISTRY): General Pertsev has already described in great detail the work that has been done and that is now being done in Russia. Looking forward, the following question comes to mind. Suppose we have resolved the problem of ensuring the security and safety of nuclear materials, weapons and facilities on Russian territory. Suppose that problem has also been completely resolved in the United States and three of four other states that have nuclear weapons. Will that be enough to ensure global security, i.e. security on a global level?

We all know that apart from the nuclear-weapon states, there are also half a hundred or more of countries which pursue nuclear energy programs and have large stocks of nuclear and radioactive materials. There are also countries that are only just beginning their nuclear energy programs. That means that ever greater efforts will be required to ensure the safety and security of nuclear materials and facilities, as well as proper accounting and controls.

When we were discussing with our American counterparts the question of where to go next in our cooperation with the United States, when we were drafting the joint presidential statement on nuclear cooperation, we discussed these issues as well. From that discussion came the idea of holding a nuclear security summit.

Russia, the United States and other countries with advanced nuclear programs have always discussed one way or another, the question of security of nuclear and radioactive materials. But there is also a large number of countries that have only a very vague idea of what needs to be done to make sure that all the required standards are met. We need to focus on implementing the nuclear security and safety standards developed and recommended by the IAEA, on introducing reliable accounting and control systems for nuclear materials, etc. These are the main objectives of the summit at this stage.

The issues of ensuring the security and safety of nuclear weapons and military facilities are very sensitive. As affirmed during the launch of the GICNT initiative, the security of nuclear materials is receiving a lot of attention, and at present the level of that security is sufficient. All the countries that have nuclear weapons are responsible for the security of those weapons. But I would like to say that this is primarily their *own* responsibility as sovereign nations. Only to a lesser degree is it a subject of broad international cooperation.

JON SHEARER (U.S. DEPARTMENT OF ENERGY): According to a recent Harvard University report, if a nuclear bomb with the explosive power of 10,000 tons of TNT were set off in a major city on a typical workday, it would kill up to 500,000 people and would cause roughly $1 trillion in direct economic damage. This is obviously a scenario that must be avoided at all costs. Terrorists' continued pursuit of these weapons and materials, along with related technologies, equipment, and expertise, makes our joint efforts no less critical than they were 15 years ago when we began cooperating in the post-Soviet era.

The Material Protection Control and Accounting (MPC&A) Program has a long history of working with counterparts in Russia and in other former Soviet States to strengthen the physical protection and control and accounting of nuclear weapons and materials. During this time the U.S. has made vast improvements in our nuclear security and we have begun to down-size our nuclear weapons complex. By working together as colleagues and friends consistently and steadfastly over the past 15 years, we have made the world a safer place.

The MPC&A Program has completed security upgrades at 73 Russian nuclear warhead sites containing hundreds of warheads, including 39 Russian Navy nuclear sites, 25 Russian Strategic Rocket Forces sites, and nine 12th Main Directorate sites. Together we have completed security upgrades 50 nuclear material sites in Russia and other former Soviet Union (FSU) states, including a total of over 200 buildings.

Together we have downblended almost 12 metric tons of HEU not from weapons and are working together to consolidate nuclear material into fewer buildings at fewer sites to reduce long-term security costs. Together we have enhanced national-level MPC&A infrastructure by developing regulations and procedures, strengthened inspection and oversight capabilities, developed training and education programs, improved conditions for protective forces and enhanced SNM transportation assets.

Related efforts have led to the installation of radiation detection equipment at 231 Second Line of Defense Core sites (land border crossings, airports, and sea ports) in Russia and 13 other countries, and installation of radiation detection equipment at 23 major shipping ports around the world under the Second Line of Defense Program's Megaports Initiative. Installation is in progress at more than 20 additional ports around the world.

We have done all of this because we recognize that threats that terrorists post are continuously evolving, and that by working together we are stronger than working in isolation. Our physical protection philosophy rests on the concepts of detection and delay of adversaries and response to them. Being prepared is a deterrence. In line with this philosophy, we have cooperated on several types of upgrades at multiple sites to enhance the abilities of protective forces to respond to emergencies. For example, we upgrade site radio systems to improve communications, and renovate buildings to allow protective force personnel to reside much closer to the nuclear materials that they protect. These upgrades significantly decrease the response time of the protective forces, thereby enhancing the effectiveness of physical protection measures.

A significant challenge in nuclear material accounting is keeping track of the numerous items. To address this challenge, we have cooperated on the implementation of modern computer accounting and laser-readable identification systems. Together, these two types of system significantly enhance the process of inventorying nuclear material items by increasing the pace of the process, decreasing the occurrence of errors, and facilitating reporting to site and to national authorities.

We are very encouraged by the progress of the MPC&A Culture project, which promotes attitudes that are an important adjunct to the technical and procedural MPC&A upgrades. This work started at Russian nuclear sites. As a result of our cooperative success there, this work has expanded to sites in Belarus, Kazakhstan, and Ukraine.

In addition to our site work, our cooperative MPC&A Program also involves national infrastructure work. For example, our ongoing cooperation under the MC&A Equipment and Methodologies Working Group (MEM Working Group) brings together technical specialists from many *Rosatom* sites to work on a wide variety of material control and accounting measurement issues.

Encompassing all of our cooperative efforts, we have jointly agreed on the principles to sustain security upgrades in the interest of continued effective operation of MPC&A systems. The Joint Sustainability Working Group, along with site and infrastructure project teams, have worked intensively for several years to identify seven critical elements of sustainability, and specify the tasks necessary to fulfill these seven elements of sustainability in site-specific joint plans. These seven elements, which we believe apply to nuclear enterprises everywhere, are: site MPC&A organization/system operational planning; regulatory documents for MPC&A system operation; human resource management and site training; operational cost analysis; preventative maintenance, repair and calibration; performance quality verification and technical control; MPC&A system configuration management.

To facilitate our joint work on performance testing, key representatives from nuclear sites have visited the Y-12 National Security Complex for performance assessment workshops with presentations, demonstrations and exercises. We plan more such visits, on this topic and others of mutual interest.

ALEXEY UBEEV (*ROSATOM*): Starting from the mid 1990s we have tried to build a kind of bridge from aid and assistance to equal partnership, not only bilateral but also multilateral, aimed at sharing our experience with other countries. The Nuclear Security Summit in Washington (April 12–13, 2010) was initially proposed as a kind of seminar, but for various reasons many participants of the meeting in Washington did not accept such a model, because it would have looked as though people were being lectured. Imagine what would happen if a representative of every participant, including 44 nations and four international organizations, is given 10 minutes each to make a statement. That would translate into eight hours of non-stop statements. Were any of the heads of stage prepared to take that?

Also, people will probably make use of the summit to hold bilateral meetings on the sidelines. But the very fact that the summit focuses on such a topical subject, which is, nevertheless, very narrow from the global point of view – that already tells you a lot. That is why the organizers are facing a very complex task.

There are several very serious issues. First, would it be right to just keep scaring people? Second, aren't we overdramatizing the need to counter nuclear terrorism and improve security? And finally, are we going to promote nuclear energy? The idea is not to announce some kind of a clampdown in the final communique by the heads of state. The idea is to demonstrate the benefits of nuclear energy, given the ongoing world energy crisis. I believe that such an opinion is shared by many people other than *Rosatom* representatives.

Representatives of many industrialized nations agree that we need to clearly demonstrate the role of nuclear energy - though naturally we also need to abide by all the safety and security standards and regulations. In the current situation, and especially if we take into account the Kyoto protocol, there is simply no alternative to nuclear energy if we want to resolve the energy situation. That is the task I would like to draw your attention to, and that is how we should look at the future of nuclear energy.

In January 2006 the president launched the initiative on multilateral approaches to the nuclear fuel cycle. The initiative has its upsides and downsides.

In 2009 the IAEA Board of Governors passed a resolution instructing the Director-General to sign an agreement with Russia on creating a guaranteed reserve of low-enriched uranium. Creating the regional centers is a real contribution to nonproliferation – provided, of course, that there is a very limited number of such centers and that they are all placed under the IAEA safeguards system.

In general, speaking about the current climate, the working plan is now much better than it used to be in the beginning. But there are also a few *irreconcilable* countries, which first questioned the need for the nuclear security summit as such and then tried to fill the purely technical text of the working plan (I am not talking about the communique) with political statements. That was the main difficulty during the preparations.

EVGENY MASLIN (ASPEKT-KONVERSION): I have been involved in various issues related to nuclear weapons for many decades. In the early 1960s I worked with colleagues from the Ministry of Medium Machine-Building. At that time facilities of the Defense Ministry's 12th Directorate were working hard to catch up with the United States and achieve nuclear parity. In 1962 I did not go to Cuba, but the nuclear warheads I helped to assemble did. Then came the time of Eastern Europe in the 1960s. All our Warsaw Pact allies hosted Soviet nuclear weapons on their territory. Back then, I did not even think about nuclear safety and security. But just imagine for a second: war planners at the time expected that up to 700 nuclear devices would be used in frontline aviation in the event of a large conflict. Just imagine Europe where war is raging and frontline aviation alone has 700 nuclear devices to use against the adversary. There were also plans to launch up to 1,000 warheads, with another 1,000 for retaliatory strike. There was this concept of a retaliatory strike. The idea was to take them all out in one fell swoop. Thank God, those times are over, and most importantly, the confrontation of ideologies is over.

When we had all those ideological problems, when we thought about Socialism and then Communism as the next stage of human evolution, when we thought that if World War III ever comes, it will be a nuclear war and then Socialism will certainly prevail all over the globe – back then it was difficult to think of security as we think of it today.

A lot has already been said today about joint efforts on nuclear security. But the very idea of nuclear security is not as simple as the idea of conventional security. It includes aspects such as security of storage, security of transportation, security against terrorism, etc. Previously it was believed that the biggest threat was the risk of unauthorized use. Now these problems are gone. Now, in my view, we are talking about fairly mundane problems compared to the ones we had a few decades ago. And as the number of the remaining nuclear warheads falls, security continues to improve.

As for the idea of a world free of nuclear weapons, I was once asked about my opinion about the Global Zero initiative. That initiative proposes a specific plan to free the planet of nuclear weapons by 2030. So when they asked me what I think of the idea, I said that for the current generation this idea is something of a pipe dream. But at some point we will have to start thinking seriously about it, because we are all well aware what kind of dangers those weapons pose.

Nuclear weapons have long become a political weapon. But realizing the dangers of proliferation, we must follow the path towards nuclear arms reductions, in line with the requirements of Article VI of the Nuclear Non-Proliferation Treaty. I believe that once the two countries that possess the largest nuclear arsenals on the planet reduce them to a certain number of warheads, other nuclear powers will have to become involved. They must all join the negotiations and start thinking about what we should do about nuclear weapons.

One of the issues that have a direct effect on nuclear security is the so called Personnel Reliability Program. So long as nuclear weapons exist, the people who operate them must be properly selected to minimize the *human factor* and improve reliability.

Starting from the 1990s, in Soviet times, the security technology at nuclear facilities was limited to barbed wire and one detector instrument called Kristall. If the wire was cut, two guards with assault rifles would come running to investigate. There were also signs at the perimeter saying "No trespassing". In Soviet Union no-one had any idea what terrorism was-so the security systems were the way they were. But very soon measures were taken in all haste to step up nuclear security, especially when Ukraine wanted to become a nuclear-weapon state and was therefore very reluctant to give up the Soviet weapons on its territory. At present, as General Pertsev has just said, all the military arsenals are equipped with excellent new security systems.

I would like to hope that practical steps will be worked out on nuclear security. The IAEA must do its job. But this cannot go on forever – all these resolutions do not solve the actual problem. The technology of producing nuclear weapons is well understood. The terrorists understand it as well. I doubt that any terrorist organization will ever be able to assemble a nuclear device and pull off a proper nuclear detonation. This is very unlikely. But they can scavenge some radioactive waste, put it into a package, blow it up and cause a huge panic. That is a realistic scenario, and it must not be ignored.

Politicians must work towards the eventual goal of reaching the nuclear zero, because mankind has plenty of other problems to worry about besides nuclear weapons, such as climate change and the planet's resources running out. People are already thinking about sending a mission to Mars, yet we continue to threaten each other. The possibility of nuclear weapons being used in anger is still present, and it is unlikely to disappear completely any time soon. We should think seriously about that.

DMITRY KOVCHEGIN (*BOOZ ALLEN HAMILTON*): At present one of the key issues in Russian–American cooperation is ensuring long-term efficiency of the improvements already implemented. Work on that subject gives plenty of food for thought. And many lessons can be drawn from that work for the future of Russian-American cooperation in this area, as well as for cooperation with other countries all around the globe.

Nuclear security is not a final state we can arrive at. It is a continuous cyclical process. In other words, we cannot just implement some project, install detectors, build fences and then rest on our laurels. The threats we are facing are constantly changing, and the situation with nuclear materials

keeps changing as well. Which is why we need to continuously analyze those threats and develop effective mechanisms to counter them.

We need to work on developing processes to ensure nuclear security. The result of these processes should be the reliable functioning of the nuclear security system. We need to develop ways of ensuring nuclear security locally rather than always rely on assistance from the outside. Otherwise we will eventually face a situation whereby the donors will have to continue giving more and more money for new improvements. Russian–American cooperation in this area began in the mid 1990s. Some 15 years have passed since then. The equipment installed back in the mid-1990s is already worn out and obsolete. And we cannot just continue replacing the same old systems. This is a road to nowhere, both for the donor countries and for the recipients.

As part of the cyclical process we must focus our attention on assessing the threats we are facing and assessing whether the solutions we have are adequate to those threats. We need to take into account that there are no universal approaches. In other words, the United States is facing one set of threats, Russia is facing another, Pakistan yet another, and so forth. We need to develop systems designed to counter those specific local threats. So there is no universal solution which the United States could offer to Russia, or which the U.S. and Russia together could offer to a third country.

This is why one of the key elements of cooperation is reaching an agreement on the methods that should be used to assess the threats and estimate the efficiency of the systems we use to counter them. Both of these processes are critically important and represent the information we should work from. I believe that if we correctly formulate the problem as part of that process, finding a solution will be much easier. Any reasonable manager or official at a nuclear facility or some military structure will do everything in his power to remove the threat if he has sufficient and accurate information about its nature.

Therefore we need to work on these two processes. We also need to support the efforts to implement these processes in the countries were this has not been done yet, for various reasons. The United States and Russia have already made a lot of progress, and these processes have already become a matter of routine at U.S. and Russian nuclear facilities. In other countries things are different. So we need to spread this practice to other countries.

As for exchanging information about specific threats, this has always caused some difficulties, from both the American and the Russian side. But we need to develop such exchange, as far as possible. Naturally, that exchange should not be limited to the donor-recipient format, whereby the donor country must have some information about the problems of the recipient country in order to have some guarantees that the money will not be misspent.

The next issue is that we cannot view nuclear security separately from the larger situation. Take Russian–American cooperation, for example. The reason it began was not some specific event related to nuclear security. The main reason was the collapse of the former Soviet Union and the whole range of the economic, political and social problems that ensued.

Nuclear security is not an isolated issue, and neither is it the single top priority for the sake of which everything else can be sacrificed. The top manager of a nuclear facility has plenty of other things to think about. He must divide his attention between nuclear security, nuclear safety, paying wages to his staff, increasing the profits of his company, and many other things.

On the one hand, this situation creates problems and risks, in a sense that different priorities compete for our attention. But it also presents some opportunities for resolving the existing problems more efficiently. The fact that the problems of nuclear security are interlinked with other problems can help us use the available resources from the adjacent areas. This thinking, this view of the problem already exists locally, as a rule. But people higher up, the politicians in charge of our cooperation do not pay sufficient attention to this.

Therefore the organizations tasked with ensuring nuclear security have a very important role to play here. The situation may be a bit different in the armed forces, where there is a certain hierarchy. But in the civilian sector the people directly responsible for nuclear security at a nuclear facility are the top managers of that facility. These people, these organizations at the grassroots level know their own problems better than anyone else. It is they who should formulate the requirements for areas or cooperation that are best suited to address their needs. Meanwhile, the people at the top, the politicians who take part in the summits, they must properly analyze the

information they are receiving from the grassroots level and create the necessary conditions for effective work of these organizations.

Right from the start of our cooperation there was a good example of how it should be done. I am talking about the so-called lab-to-lap cooperation, whereby specialists from Russian and U.S. nuclear facilities could work directly with each other. These days, when I look at direct contacts between specialists at the grassroots level, the impression I get is also very positive. At that level it becomes obvious that our cooperation is making progress and bringing tangible benefits.

Now I would like to make several conclusions. First, we need to take into account the problems and interests locally in the countries which are facing tangible nuclear security threats. Therefore we need to explain the existing problems and threats instead of trying to impose out vision on other countries. Sometimes we have situations whereby the donor country imposes its vision on the recipient country in order to implement its own approaches to ensuring nuclear security.

Second, the issue of nuclear security should be considered in a wider context. We had examples here in Russia in the 1990s when most of the problems were coming from the outside, from the general situation. We also have Pakistan at present, where nuclear security problems are linked to the wider context. All this needs to be taken into account and analyzed.

Unfortunately, we cannot resolve all nuclear security problems just by working with nuclear facilities. We cannot resolve them just by installing detectors and building fences. We also need feedback from the people who are directly involved in nuclear security issues at the grassroots level.

GENNADY EVSTAFIEV (PIR CENTER): It is important to note the contribution made by the 1996 nuclear security summit in the Kremlin. I was a member of the Russian delegation. That summit drew the conclusions from the huge work that had been done by Russia to normalize the situation with the nuclear facilities, and this has been recognized. It is starting from the 1996 summit that Russia began talking as an equal with the other participants in the process. That is when other parties really started to listen to Russia.

As for nonproliferation, I have to say that when we accuse A.Q. Khan of nuclear weapons proliferation, the charge is not entirely accurate. Khan was dealing only with official government structures of other foreign countries. He never dealt with Al Qaeda or similar organizations. That fact is now being ignored.

PERTSEV: Mr. Kovchegin has raised some important issues, some of them theoretical. If I understand him correctly, we need some specifics in the exchange of information on threat assessment. No-one is against such an approach. Let me give you a brief example. Back in the early 1990s we had a program to assess the efficiency of the analysis of the vulnerability of nuclear facilities. It was developed by Americans. Well, they gave us the complex program, but they kept the database to themselves. That tells us about openness. So we adapt the program to our own circumstances, to the specific facilities and territories. We cannot use exactly the same program for the whole of Russia. We have to take into account the local crime situation, and many other factors that are important to make that program work well.

Mr. Kovchegin has also said that the donor country usually tries to impose its vision of the nuclear security problem on the recipient country. But as our own experience of cooperation with our U.S. partners shows, especially in recent years, we do not feel any such pressure. They say to us, ''look for your own ways, look for your own solutions''. The only situation in which differences sometimes arise is when we find some kind of equipment, and they say to us that it is a bit too expensive and that we need to find something a bit cheaper. Nevertheless, we manage to find a compromise. We do not feel any pressure to impose their way of doing things on us.

SERGEY ANTIPOV (RUSSIAN ACADEMY OF SCIENCES): Staring from 1995 I have been actively involved in Russian–U.S. programs to create physical security, accounting and controls systems at Russian nuclear facilities, including those operated by the 12th Directorate and the Institute of the 12th Directorate. So I am very closely familiar with these things we are now talking about. But I would like to start from a subject that is not directly related to nuclear security issues.

Military medics have this principle: on the battlefield after the battle they give assistance first to those who are lightly injured, then to those with more serious injuries, and only then to the severely injured. At first glance, that does not seem very humane: it means that there are severely injured people lying there and suffering on the battlefield while people with much less serious

injuries are the first to receive assistance. But actually such a system makes a lot of sense. Because while you are busy treating someone who is severely injured, for a long time you will not be able to assist anyone else. And while you are busy with that one man, someone who had a light wound will turn into a medium-gravity patient, and someone who was medium-gravity only a short time ago will turn critical. As a result, overall losses will only increase.

Now let us look at the approach of our foreign partners to choosing the priorities of our cooperation at any given period. We have discussed the issue of nonproliferation. In my view, it consists of two parts. The first part is the threat of new countries becoming nuclear-weapon states, i.e. acquiring nuclear materials, nuclear weapons and weapons technologies. The second part is the threat of those materials falling into the hands of terrorists, be they individuals, small groups or larger organizations.

The thing we have to take into account is that the first group, i.e. state actors, want nuclear weapons to defend themselves or maybe even to attack. But the second group has different purposes, and for those purposes they can use not only nuclear weapons but also radioactive materials and even radioactive waste to create a dirty bomb. Meanwhile, a dirty bomb does not have to be an actual device one can assemble with a screwdriver. It can be just a pack of explosives or a fuel-laden plane that crashes into a radioactive waste storage facility, contaminating the entire area. For a long time during the early stages of our cooperation our partners ignored such risks.

Let me give you one example of cooperation with our U.S. partners. In 1995, when we started implementing programs to improve the physical security of Navy facilities, they had a very strict directive: they we interested only in those facilities that stored nuclear ammunition or fresh highly enriched nuclear fuel. They weren't interested in anything else. They said, those other facilities are you own problem, we are not spending any money on them. Then after a while – and September 11 probably played a role here – they became interested in the problem of protecting spent nuclear fuel. The United States began to allocate funds for the transportation of spent nuclear fuel from the Mayak combine storage facilities, for its reprocessing, for creating a fleet of containers, special trains, etc.

Then we said to them, we have radio-isotope thermoelectric generators (RITEGs). This is an autonomous energy source designed to last for decades. They are usually used to power light beacons or some other facilities in very inaccessible places. They do not produce a lot of energy, but they contain highly radioactive materials. The places where these generators are installed are remote and entirely deserted, so in that sense they are unprotected. If the terrorists steal them, they can be used to do a lot of damage to the planet's population. Our foreign colleagues, apart from the Norwegians, were not interested. But now, following a seminar of the IAEA contact expert group, which was held at our initiative in Oslo in 2005, five countries (Norway, the United States, Canada, France and Finland) have allocated funds to resolve this problem. Starting from 2005 some 250 RITEGs have been removed from inaccessible facilities, brought to Rosatom plants, dismantled and disposed of. This work is still ongoing. In other words, we are now coming to the realization that in addition to the severely injured, we also need to treat those with medium and light injuries.

By the way, have the facilities operated by the Russian Academy of Sciences ever been considered as nuclear facilities or radioactively dangerous facilities? We have always focused on the Nuclear Industry Ministry and MoD facilities. But it turns out that more than 70 institutes at present, and more than 150 institutes in earlier days worked with radioactive substances. They also produce radioactive waste. And because discipline there was never as strict as at the Nuclear Industry Ministry facilities, many things still remain unchanged. Many of these Academy facilities are located in large cities. The vice president of the Academy, N.P. Laverov, has proposed the initiative of improving physical security at those facilities. The priority list includes 12 of the most vulnerable facilities. Projects to improve security at two of these institutes are already nearing completion. I hope that the remaining 10 will follow.

Of course, we cannot just blindly copy the strategy of military medics: leave the severely injured for later, deal with the lightly injured first. But neither should we ignore it entirely. In other words, while we work on the big and serious threats, we should not be forgetting about the less serious ones. Such incidents may be less serious in terms of their possible consequences - but they may actually be more likely to happen.

PERTSEV: It is important to note that the security of the nuclear arsenals was guaranteed, both in the 1990s and now. It is just that nuclear security and nuclear safety depend on three components: organizational measures, organizational-technical measures and design and technology solutions. There are the three pillars on which security rests. In earlier days, we just paid more attention to organizational measures. In other words, instead of a security platoon we had an entire security regiment. So the proportion of each of the three components has changed.

Now our national concept of nuclear security prioritizes design and technology solutions; organizational-technical measures come second, and organizational measures come third. Organizational-technical measures include laws and regulations, standard procedures, guidelines and other documents, all the way up to the federal laws I have already talked about. This component must be up to scratch. In my opinion, right now it is quite rational. It was rational in the 1990s, 1980s and 1970s as well, it is just that the proportion of each component was different. Back then, barbed wire and a ''No trespassing'' sign were enough to make sure that people stay away. Right now, that same barbed wire and sign will actually attract people just out of curiosity or to make a point that they are in a free country and can go anywhere they please. That makes things different.

The actual nature of nuclear security is such that development never stops. We always need to aim for the better, because technologies become obsolete, they constantly have to be upgraded and modernized, so we need to introduce new ones. In general, we need to reduce our reliance on the human factor. Even if we use people only as operators for sophisticated technology, or as guards, even if we introduce new rules for groups of three people, groups of six people, we still need to make use of new approaches in terms of social and psychological selection and adaptation. We have some very good techniques, and we need to improve them, taking into account the democratic nature of our country. The polygraphs we began to introduce in 1995 – they need to be upgraded as well.

VLADIMIR ORLOV (PIR CENTER): To conclude this round table, let me say this. *First*, we should be careful not to overdramatize the treat of nuclear terrorism and its consequences. Theoretically, we can go a bit too far. But we need to have effective preventive measures, because the treat of nuclear terrorism really is serious. The actual likelihood of an incident is not that high, but so what? Just one such incident will be enough for people to realize that they should have listened. So the objective remains, we need effective preventive measures. The money that will have to be spent on preventing terrorism, including nuclear terrorism, will be recouped if we manage to prevent an actual attack, or prevent an incident from turning into a geopolitical situation.

Second, I believe that Evgeny Maslin has raised a fundamental issue. He has reminded us that not so very long ago we were discussing the possibility of an actual nuclear war in Europe. We were talking about attack and retaliation. There were even scenarios that have now come to light under which our country was to continue delivering strikes even after all the Soviet political leadership has been destroyed. Such information that is now coming to light is an important reminder of those times. So it is very important that we have moved on from nuclear confrontation to nuclear cooperation. It is important to draw lessons from the past. I believe this round table has helped us to do just that.

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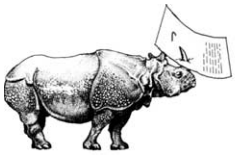

Irina Mironova

THE KOREAN ISSUE IN CHINA'S *NEW DIPLOMACY*

Starting from spring 2010, tensions on the Korean Peninsula have risen considerably. The situation was triggered by the sinking of a South Korean warship, the *Cheonan*, in March 2010. In recent months, Korean affairs have been in the headlines, among other things, due to the impending *coronation* of Kim Jong-Il's successor. The situation is all the more interesting since even the May 2009 nuclear test failed to produce such a lively reaction. The Korean issue involves a broader circle of participants than just the two Koreas; this article will focus on the position of China.

China has for a long time been a leader in regional affairs. This is evident from such factors as the rise in Chinese trade with neighboring countries, including the emerging trade in energy resources, primarily with its Central Asian neighbors and Russia,[1] as a result of growing energy consumption in China. At the same time, as far as the Korean issue is concerned, China has an active position and clearly has a strategic vision of the situation, which the other interested parties often fail to display. That is why China's role on the Korean Peninsula appears to be a subject that deserves closer attention.

CHINA'S FOREIGN POLICY

Since the mid-1990s, China has adopted a new approach to its foreign policy objectives, which has been reflected in such documents as the new security concept, the new approach to development, and the concept of a harmonious world[2] – known collectively as China's *new diplomacy*. The basis this *new diplomacy* has developed on is Deng Xiaoping's concept, including the following *postulates*: ''calmly observe; strengthen one's positions; confidently react to change; hide one's opportunities, bide one's time; do not attract attention to oneself; never become a leader; do specific things.''[3] Researchers and analysts often speak of so-called *good neighbor policy*, based on the geographical aspect of China's foreign policy, which consists of resolving border issues with the neighboring states.[4]

Sometimes China's foreign policy is described as *economic diplomacy*,[5] emphasizing the country's aspiration to influence its neighbors through economic ties and to use *non-military power*. Indeed, one of China's most important strategic decisions is the decision to engage in economic globalization rather than try and protect itself from the influence of this irreversible process.[6] This has been reflected in both the regional and the global aspects of China's foreign policy. Moreover, over the past several decades the Chinese economy has been growing faster than the world average, which has necessitated closer economic cooperation, particularly with the neighboring countries.

Another description that China's foreign policy is sometimes given is *responsible foreign policy*.[7] In other words, first, it has clear and adequate priorities, and second, it actually follows these priorities. This mean that China's policy is to a certain degree *predictable*. Predictability is important because prejudice and perception play a great role in international relations. Take for example the notions of security and stability. They represent none other than a country's *perception* of the international situation as either threatening or not threatening to its essential

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interests. Thus, the degree of responsibility of the foreign policy of a country reflects its desire to project confidence and predictability. It is in this light that China's decision not to unequivocally agree with the outcomes of the probe into the loss of the *Cheonan* should be viewed since that would have resulted in a deterioration in North Korea's perception of the security and stability situation and, consequently, in possibly more serious complications on the regional level.

Good-neighborly policy, economic diplomacy, and responsible foreign policy—these three concepts, probably, give quite a full idea of what *new diplomacy* is. In a nutshell, here are its main aspects: first, it addresses the task of forming a favorable outside environment for Chinese modernization and forming a belt of good-neighborly relations; second, it develops relations not only with the countries of the region but also with international players through non-military means, primarily trade and economic relations; third, it views foreign policy objectives as part of the domestic development agenda.

ECONOMIC TIES WITH SOUTH AND NORTH KOREA

The Korean Peninsula is located in immediate proximity to China and one of its countries has a lengthy land border with China. Northeast China, bordering on North Korea, is the foundation of the country's industrial development in the 1960s–1970s, *the industrial cradle of new China.*[8] In 2003 a plan for reviving the provinces was developed, mainly as regards their role for the country's industry,[9] envisaging, first, energy supplies (with a large part given to energy supplies from the Russian Far East and the construction of an LNG terminal[10]), and, second, better integrated transport links. That is where the Democratic People's Republic of Korea (DPRK) comes in, as a country not at all integrated into the Northeast Asia transport and economic system. Naturally, it would make sense for China, as part of its priorities for the regional development of provinces bordering on North Korea, to contribute to dialogue on the peninsula and ensure DPRK's at least minimal involvement in the (sub)regional transport system. Thus, the Korean Peninsula forms part of *a priority zone* in China's foreign policy. Hence, it would be logical to assume that in this area China should use the *economic tools* of its foreign policy.

An interesting trend in the structure of China's foreign trade comprises that in trade with Europe and North America, Chinese exports exceed imports, while in trade with Asian countries, in particular Japan and South Korea, the situation is the opposite, with China importing more than exporting.[11] The bulk of China's trade with South Korea consists of manufacturing industries products (ferrous and non-ferrous metals, chemical industry, machine engineering, light industry). The overall trade between China and South Korea in 2008 amounted to $186.06 billion, or 7.2 percent of China's total foreign trade.[12] Thus, although in terms of the amount of its trade with China, South Korea falls behind the United States ($334.49 billion), Japan ($266.77 billion), and Hong Kong ($203.69 billion),[13] this amount still makes up a significant part of China's exports and imports, exceeding for example its trade with Middle Eastern countries, which are the main suppliers of oil and gas.

China's trade with DPRK in 2008 amounted to $2.87 billion,[14] with some 70 percent of it accruing in China's northeast provinces of Liaoning, Jilin, and Heilongjiang[15] (see Table 1). Trade between the two countries is asymmetrical, with China accounting for 42 percent of North Korea's exports and 57 percent of its imports,[16] while for China trade with DPRK makes up just a fraction of a percent of its foreign trade. However, a comparison of China's economic relations with DPRK with South Korea's economic relations with DPRK (see Table 2) will show that China's involvement appears to be more *commercial* and, as a consequence, more *transformational* in relation to the North Korean economy.[17] It is worth remembering that China appears to be attaching particular significance to relations with North Korea, which is evident in the frequent mutual visits by the two countries' high-ranking officials (Wen Jiabao visited DPRK in 2009, in May 2010 Kim Jong-Il visited China, while August saw *an apotheosis of friendship*: Kim Jong-Il and Hu Jintao had a meeting in the Chinese city of Changchun in the northeast province of Jilin).

China's cooperation with DPRK can be based on two principles: a *transshipment point* or a *triangle*. The former implies the export of goods manufactured in China (in particular, in the Yanbian Korean Autonomous Prefecture) through DPRK or import into China, again through North Korea. Koreans can make some profit on reselling; in exchange tin, steel, and other products are supplied to China. A *triangle* is a principle whereby North Korean woodcutters are hired for work in Russia; their labor is partly paid for with metal products, which in turn are exchanged for food

Table 1. **DPRK's trade with China's northeast provinces, 1998–2005**

DPRK trade	1998	1999	2000	2001	2002	2003	2004	2005	Av. annual growth
Total ($million)	1,664	1,814	2,398	2,673	2,902	3,115	3,554	4,055	14%
Trade with China ($ million)	408	371	488	738	738	1,024	1,385	1,580	21%
Trade with northeast provinces ($ million)	300	241	364	574	629	903	1,125	1,090	21%
* Liaoning	204	157	236	390	462	622	786	823	22%
* Jilin	79	78	118	169	152	253	283	241	17%
* Heilongjiang	17	6	10	15	15	28	56	26	6%
Northeast provinces' share of trade with DPRK (%)	18.0	13.3	15.2	21.5	21.7	29.0	31.7	26.9	
Northeast provinces' share of DPRK's trade with China (%)	73.5	65.0	74.6	77.8	85.2	88.2	81.2	69.0	

Source:
Marumoto Mika, ''The Roles of China and South Korea in North Korean Economic Change,'' *Korea's Economy* 24 (2008), p. 104.

Table 2. **Trade between South and North Korea, $ million**

	South Korea's exports to DRPK						South Korea's imports from DRPK		
Year	Light water reactor (KEDO)	Financing	Fuel oil (KEDO)	Kumgang-sang project	Other cooperation projects	Total amount of supplies to DPRK	Total amount of supplies from DPRK	Share of total trade (%)	Total amount
1995	–	0.2	10.8	–	–	11.0	–	–	11.0
1996	–	1.4	12.8	–	–	14.2	–	–	14.2
1997	17.8	8.4	29.0	–	–	55.2	2.8	5.1	58.0
1998	4.0	15.6	19.8	37.6	1.2	78.2	0.1	0.1	78.3
1999	14.4	43.4	**39.5**	40.6	6.3	144.2	0.1	0.1	144.3
2000	35.6	104.5	11.7	14.6	17.2	183.6	1.9	1.0	185.5
2001	33.7	110.6	3.5	5.8	10.4	164.0	2.7	1.6	166.7
2002	**58.6**	213.2	2.0	11.9	11.7	297.4	1.4	0.5	298.8
2003	23.7	270.7	0.0	16.1	4.8	315.3	0.2	0.1	315.5
2004	0.5	258.5	0.0	41.7	48.5	349.2	0.1	0.0	349.3
2005	0.4	365.0	0.0	**87.0**	163.7	616.1	20.1	3.3	636.2
2006	0.0	**419.2**	0.0	56.6	**238.7**	714.5	**78.2**	10.9	792.7

Source:
Stephan Haggard and Marcus Noland, *North Korea's External Economic Relations*, Working Paper 07-7 (Washington, DC: Peterson Institute for International Economics, August 2007), p. 37.

products in the Yanbian Korean Autonomous Prefecture. Both scenarios were in active use in the 1990s but these forms of cooperation have now become considerably rarer.

Cross-border trade, which makes up a large part of trade between China and North Korea, is developing in line with the 1954 permission for cross-border trade between the Yanbian Korean Autonomous Prefecture and DPRK in the cities of Tumen (China), Namyang, Hoeryeong, Khyongwon, and Musan (DPRK). In 2002 a special administrative region, Sinuiju, was set up, while the Chinese city of Dandong, which lies on the opposite bank of the Amnokgang river, across from Sinuiju, has a developed infrastructure geared towards trade with North Korea. Cross-border cooperation projects make it possible to develop North Korean markets, both legal (in the aforementioned towns) and illegal (semi-legal). In the recent decade, ''market operations have been playing a decisive role in North Koreans' economic life,'' according to Korea specialist A. Lankov.[18] Money sent back home by North Koreans working abroad, mainly in China (according to various estimates, their numbers range from 40,000 to 400,000), also has a certain role to play.

Cross-border cooperation, both in terms of trade and in terms of North Korean labor, has a certain socio-economic significance for northeast China, too. In addition to reducing the shortage of various goods, cross-border cooperation, first and foremost, contributes to the development of market demand and local markets inside China.[19] In addition, the development of the northeast part of the country, as has been pointed out earlier, is an important part of China's regional policy.

KOREAN KNOT

The Korean Peninsula is a knot of problems that everybody is talking about, but the discussion often boils down to the nuclear issue and the issue of unification. It is worth remembering that North Korea primarily seeks to preserve the existing regime (interestingly, some experts believe that *Chinese-style* economic reforms could easily result in quite a speedy collapse of the regime[20]). Thus, the nuclear program serves as a balance against excessive external interference and as a bargaining chip for increasing the amount of humanitarian aid.

The issue of unification is being pushed into the background because it is unrealistic. In theory, possible options include: the South taking over the North, a confederation, or the North taking over the South. Despite the ongoing debate and the fact that South Korea has a *Ministry of Unification*, its citizens are far from prepared to pay the high price of unification and take a step back in economic development, just as North Korea is not prepared to agree to unification *on South Korea's terms* (as for unification on North Korea's terms, one would hope that the international community would not allow it to happen). As for a confederation, neither party is ready for this scenario, and given that even in the format of the six-party talks and in bilateral format it is not always the case that *communication* takes place,[21] the possibility of a normally operating joint government appears most doubtful.

Thus, the peninsula's main problem consists not in the North Korean nuclear program *per se* or unification *as it is.* The problem consists in the virtual absence of relations between the two Koreas and is further exacerbated by the fact that there are not only Korean interests at play but there are also a number of players that pursue their own, quite explicit, interests on the peninsula, including China. The actions of Northeast Asian countries are guided by security considerations. ''DPRK became the focus of *rivalry between China and the United States*, which was further compounded by the lack of understanding of *what* is happening inside North Korea.''[22] Tensions are being expressed through two sets of controversies: China–United States and China–South Korea.

DOES CHINA HAVE A KEY?

As is becoming clear, in the case of China, foreign policy objectives should form part of a domestic policy strategy. In resolving its foreign policy tasks, China is guided mainly by the norms of international law,[23] which also shows that it seeks to resolve issues within the framework of the existing system. Within its operation *inside the system*, one cannot fail to note China's desire to set up multilateral international mechanisms in which it could influence the process of agenda setting. This is directly manifest in China's active policy in the establishment of international forums, for instance the ASEAN Regional Forum, the Shanghai Cooperation Organization (SCO), and the six-party talks on North Korea.

Before looking at whether China, within the system of international relations and international law, will be able to actively contribute to resolving the Korean issue, it is necessary to clarify what *the solution* comprises. Since the problem consists in the absence of an adequate inter-Korean dialogue, the solution should lie in starting this dialogue and in maintaining stability in the region, with not only North Korea's immediate neighbors but North Korea itself feeling secure. In that sense, China's policy towards North Korea appears to be aimed at stability and predictability, which makes it possible to involve the regime in a dialogue. I believe that China is behaving *responsibly* in relation to the Koreas. As Russian researcher Georgiy Toloraya noted, in the situation with the *Cheonan*, China ''did not give in to pressure''[24] and did not take its cue from somewhat dubious test results, having thus preserved North Korea's trust, which is essential for overall stability (as far as it is possible on the volatile Korean Peninsula). On the other hand, however, this has resulted in a loss of balance between the participants in the six-way talks.

What future awaits the Korean Peninsula? In fact, there are two main options: North Korea's collapse or preservation of *the status quo* on the peninsula. The collapse of the North Korean regime, which many *have been waiting for* since the early 1990s, would lead to a drastic deterioration in the security situation in the region due to competition to make North Korea part of one's zone of influence, let alone North Koreans' economic difficulties, which could drive them to start (illegally) migrating to China, South Korea, Russia, and other countries in search of work and stability, which in turn would cause certain problems in the host countries.

It would have probably been possible *to push* the North Korean regime towards downfall; however, none of the countries forming part of the six-way format is interested in that. Thus, the scenario of maintaining the status quo[25] appears more realistic, whereby the two states will continue to coexist on the peninsula, preserving their ideology and foreign policy principles. It is in this light that China's policy on the peninsula should be assessed.

China is capable of reaping benefits from the cooperation it has with North Korea at the moment, since this cooperation falls within the strategy of developing its northeast provinces. In other words, China would be satisfied with the current situation on the Korean Peninsula being preserved. However, it is obvious that the situation needs certain development, with the more ambitious plans even envisaging incorporating North Korea in the regional transport system. For that to happen, the intra-Korean dialogue needs to be resumed.

To resume dialogue on the peninsula, predictability and, consequently, stability of the situation are essential; therefore one may conclude that China has found a way of contributing to the task of strengthening stability, at least as far as *appeasing* the North Korean regime is concerned. At the same time, *to resolve* the problem itself, willingness and certain actions on the part of the other players, primarily South Korea, are necessary. However, one has to admit that resuming the dialogue is not a priority for Seoul at the moment. To return to the question raised in the introduction: not only China should hold *the key* (in the sense of a plan of actions for settlement), but also the other participants involved in unraveling the Korean knot.

NOTES

[1] This refers, primarily, to the Turkmenistan–Uzbekistan–Kazakhstan–China gas pipeline that was launched in December 2009; to Lukoil's plans for using this pipeline to supply Uzbek with natural gas; and to decisions taken during Dmitriy Medvedev's visit to China, first and foremost, the inauguration of the Skovorodino–Daq-Daqing oil pipeline, connecting the destination point of the ESPO oil pipeline to northeast China, and a detailed plan for the implementation of the *Altay* gas pipeline project, linking West Siberia to northwest China. See: ''Turkmen–China Pipe Opens,'' *World Gas Intelligence*, December 23, 2009; ''Lukoil and CNPC May Exchange Assets,'' *Kommersant*, September 28, 2010, <http://www.kommersant.ru/news.aspx?DocsID=1512198>, last accessed October 4, 2010; Jacob Gronholt-Pedersen, ''Russia, China Study Long Term Gas Deal,'' *Wall Street Journal*, September 30, 2010, <http://online.wsj.com/article/SB10001424052748704116004575521433569135028.html#articleTabs_article>, last accessed October 4, 2010.

[2] Gao Fei, *The Shanghai Cooperation Organization and China's New Diplomacy* (The Hague: Netherlands Institute of International Relations Clingendael, 2010).

[3] Mikhail Mamonov, ''Modern China's System of Foreign Policy Priorities,'' in A.D. Bogaturov, ed., *Modern World Politics* (Moscow: Apekt Press, 2009), p. 418.

[4] For example, the settlement of border issues with Vietnam in a 1999 agreement; with Russia in a series of agreements in 1991, 1994, and 2004; as well as continued negotiations with India. Zhang Xinjun, ''China's

'Peaceful Rise, Harmonious' Foreign Relations and Legal Confrontation,'' *Eurasia Review*, <http://www.eurasiareview.com/201006123096/chinas-peaceful-rise-harmonious-foreign-relations-and-legal-confrontation.html>, last accessed September 27, 2010; Aleksey Borodavkin, ''Russia and China: On Path towards Good-Neighborly Relations and Cooperation,'' Institute for Far Eastern Studies, <http://www.ifes-ras.ru/pdv/online/120-aaieiaeaaeei-einney-e-eeoae-ii-iooe-aeiaeininaaenoaa-e-nioeoaeiedanoaa>, last accessed September 20, 2010.

[5] This view is being conceptually developed in the West, in particular at the Netherlands Institute of International Relations Clingendael. See: Maaike Okano-Heijmans and Frans-Paul Van der Putten, ''China's Rise and the Changing Rules of the Game in the International Order,'' *CEPS Commentary,* July 6, 2009; Peter Van Bergeijkand Jan Melissen, ''Economische diplomaten and Diplomatieke economen'' (Economic Diplomats and Diplomatic Economists), *International Spectator* No. 64 (2), February 2010, pp. 68–69.

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[7] Mamonov, ''Modern China's System of Foreign Policy Priorities,'' p. 417.

[8] ''China Vows to Revitalize Northeastern Industrial Base,'' *Chinese Government Official Web Portal,* August 3, 2003, <http://www.gov.cn/english/2003-08/13/content_23616.htm>, last accessed November 25, 2009.

[9] Yoon Hwy-tak, ''China's Northeast Project: Defensive or Offensive Strategy?,'' *East Asia Review* 16 (Winter 2004), pp. 100–101.

[10] LNG regasification terminal.

[11] World Trade Organization, *International Trade Statistics 2009* (Geneva: WTO, 2009), p. 219.

[12] Ibid. The author's calculations.

[13] Ibid. The author's calculations.

[14] The World Fact Book: DPRK, *Central Intelligence Agency*, <https://www.cia.gov/library/publications/the-world-factbook/geos/kn.htm>, last accessed October 19, 2010, the author's calculations.

[15] KOTRA, Korea Trade-Investment Promotion Agency. See: Mika Marumoto, ''The Roles of China and South Korea in North Korean Economic Change,'' *Korea's Economy* 24 (2008), pp. 92–105.

[16] The World Fact Book: DPRK, *Central Intelligence Agency*.

[17] Stephan Haggard and Marcus Noland, *North Korea's External Economic Relations*, Working Paper 07-7 (Washington, DC: Peterson Institute for International Economics, August 2007), pp. 19–20, 28. <http://www.petersoninstitute.org/publications/wp/wp07-7.pdf>.

[18] Andrey Lankov, ''North Korea: Notes on Market in Totalitarian Conditions,'' http://www.inliberty.ru/library/study/2027/>, last accessed October 20, 2010.

[19] Li Dunqiu, ''Economic and Social Implications of China-DPRK for China's Northeast,'' <http://www.nbr.org/downloads/pdfs/PSA/BS_Conf06_Li.pdf>, last accessed October 20, 2010.

[20] Andrey Lankov, ''No vse li tak beznadezhno?,'' *Rossiyskiye Koreytsy*, August 2010.

[21] ''North is No Comrade to South: Talks between Seoul and Pyongyang Fail to End in Success,'' *Kommersant*, September 30, 2010, http://www.kommersant.ru/doc-rss.aspx?DocsID = 1513018, last accessed October 4, 2010.

[22] Georgiy Toloraya, ''Challenges and Opportunities for Russia,'' presentation at the seminar on Korean Peninsula organized by the *Russkiy Mir* Foundation and the Russian National Committee of the Council for Security Cooperation in the Asia Pacific, Moscow, September 21, 2010.

[23] Zhang Xinjun, ''China's 'Peaceful Rise,'' ''Harmonious Foreign Relations and Legal Confrontation,'' *Eurasia Review*, <http://www.eurasiareview.com/201006123096/chinas-peaceful-rise-harmonious-foreign-relations-and-legal-confrontation.html>, last accessed September 27, 2010.

[24] Georgiy Toloraya, ''Challenges and Opportunities for Russia.''

[25] Ibid.

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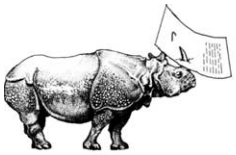

Marcel de Haas

MILITARY REFORM IN RUSSIA: SUCCESS OR FAILURE?

Since its foundation after the collapse of the Soviet Union in 1991, the Russian Federation has experienced numerous (attempts at) military reforms. Until the restructuring initiated by President Dmitry Medvedev in 2008 the previous modernization plans to a large extent had been in vain. In the 1990s, during the presidency of Boris Yeltsin, military reforms mainly focused on troop reductions and changes in the format and number of services. In the first decade of the twenty-first century, under the presidency of Vladimir Putin, the minimalist approach of military restructuring of the previous decade was continued. The only crucial exception was that Putin prepared the way financially for a huge rearmament. Although the Russian–Georgian conflict of August 2008 resulted in a victory for Moscow, it also demonstrated the status in decay of the Russian armed forces. Realizing that these shortcomings prevent military power from being a useful tool in Russia's security policy, soon after this conflict President Medvedev announced huge military reforms. Unlike those of his predecessors, his modernization plans bring about a watershed with the past: a radical change from the traditional large-scale conflict-oriented mobilization army to fully-staffed, sophisticatedly equipped, and well-trained permanently ready forces, aimed at regional power projection. What are the chances that Medvedev's military reforms will be carried out successfully? And if the modernization and restructuring of the Russian armed forces is (partly) fruitful, does this have any consequences for the military build-up and operations of the West and NATO in particular?

MEDVEDEV'S MILITARY REFORM POLICY

The performance of the Russian military should be considered in the light of the actual conditions of the army and also as part of the existing military thinking. The Georgian conflict of August 2008 was part of a consistent assertive stance in Moscow's foreign and security policy, of which military power was one of the major instruments. Around the military campaign in Georgia, President Medvedev launched new security policy concepts, emphasizing Russia's return to a position of strength. However, this assertive stance in external security policy was not matched by a military apparatus capable of executing these political ambitions. A large part of Russia's weaponry was obsolete. Although a victory for the Kremlin, the Georgian conflict clearly demonstrated shortcomings in the capabilities of the Russian armed forces. After the conflict the Kremlin concluded that the military should be brought in line with the (regained) status of important power in the international arena. Thus, ambitious procurement and military reform plans were announced. The reforms to be implemented by 2020 consisted of two parts: rearmament and restructuring of the organization and of the manpower of the forces.

The armed conflict with Georgia revealed a number of shortcomings as regards the Russian armed forces. In their operations Moscow's troops used massive artillery and aircraft barrages instead of precision targeting, apparently for lack of these sophisticated arms. Furthermore, Russian soldiers were seen sitting on top of their armored personnel carriers because travelling inside—due to insufficient armor—was more dangerous. Close air support for ground forces was hardly witnessed, probably for lack of means and lack of coordination between army and air force. Moreover, between four and eight Russian aircraft were shot down by Georgian air defense, which

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was not destroyed prior to the offensive. Russian air force pilots, especially those of fighters and bombers, were short of sufficient flying hours. As a result of this low level of training but also due to a disproportional use of force instead of precision-guided munitions (PGMs), much collateral damage was caused. Next, it was astonishing to see that the Russian military captured all the Georgian arms and equipment that they could find to transport them back to Russia, apparently to use these themselves.[1]

The Russian method of warfare in Georgia clearly provided evidence of the fact that the units involved were either not equipped with PGMs and other high-tech weapons or were not capable of using them properly. Furthermore, a lack of combat-ready trained personnel was obvious. The aircraft losses were caused by insufficient aerial reconnaissance and other intelligence gathering. The coordination of action among the services (army, air force, and navy) also failed. Although after the fiascos of the Chechen conflicts conceptual approaches were launched to increase coordination and to conduct joint warfare—in particular by creating joint-style regional military commands to replace the mainly single-service military districts—military action in this conflict was still carried out by means of the long-established structure of command and control. Consequently, the Russian armed forces conducted in Georgia old-fashioned rather than high-tech and non-contact operations, i.e. the modern (Western style) of warfare. They only won the war by using the traditional Russian/Soviet concept of warfare: an overwhelming use of arms and troops.[2]

The foundation of Russia's rearmament plans was the State Program of Armaments, *Gosudarstvennaya Programma Razvitiya Vooruzheniy* (GPV). Under Putin's presidency the GPV-2015 was developed, covering the period 2007–2015. Just before the start of the Russo–Georgian conflict, in July 2008 Premier Putin announced that the modernization plan was to be speeded up and that around 70 percent of the defense budget was to be spent on weapons procurement, repair of existing arms, and Research and Development (R&D), two years ahead of the original schedule. Nevertheless, this ambition seemed to be doubtful, considering that this part of the defense budget amounted to only 30 percent of the 2006 budget.[3] The sharp reduction in the number of military units and officers was to provide the financial means so that in 2011 spending on sustainability of the military equals that of investments (procurement and R&D). By 2015 the share of investments should be 70 percent, as Putin had announced in 2008.[4] After the Georgia conflict President Medvedev ordered an acceleration of the modernization plans for the armed forces.

Although already well known, the conflict had once again confirmed that a large part of the weaponry of the Russian armed forces was obsolete, which hampered successful conduct of operations. According to the GPV-2015, as of 2011–2012 the military would receive new weapons systems on a large scale. The Georgia conflict revealed that the level of the existing arms was even worse than assumed until then. This convinced the political and military elite that the pace of modernization should be enhanced, i.e. new weapons systems needed to be introduced sooner. The GPV-2015 was maintained; only the schedule of modernization was advanced. As underlined in the statements on the GPV under Putin, after the Georgia conflict—in spite of its nature of purely conventional warfare—remarkable emphasis was again laid on the nuclear forces, as the guarantee for Russia's national security. Prioritization of nuclear deterrence was clarified by the assumption that no state would dare to attack a nuclear power.

In October 2008 the Kremlin intended to allocate extra financial means for the enhanced modernization of the military.[5] This line of policy was still formally valid in March 2009, stressing that the GPV-2015 would not be affected by the financial crisis. Again priority for procurement of nuclear weapons—amounting to 25 percent of the expenditures on armaments—was stressed. However, it was already uncertain whether the Military Industrial Complex (MIC) was able to supply the military with new arms according to the original schedule of the GPV-2015 let alone with its acceleration. In addition to inefficiency and mismanagement of the MIC, as well as its priority for arms export, expectations were also dimmed due to the uncertainty of inflation and corresponding costs of materials. Another reason for doubt concerning speeder arms deliveries was that on 30 December 2008 the financial crisis had already forced financial support of $1.7 billion from the Kremlin to keep the MIC intact. Subsequently, included the GPV-2020 was that from 2011 to 2020 the government would allocate $3.4 billion extra annually for restructuring of the MIC, to ensure accomplishment of the GPV.[6]

Soon after the Georgian conflict, in September 2008, President Medvedev made an initial statement on the necessity of modernizing the armed forces, with regard to weapons systems as well as organizational structures and personnel. After this first announcement a number of

detailed military reform plans were to follow at a rapid pace, not only from President Medvedev, but also from First Vice-Premier Ivanov, Defense Minister Serdyukov, and Chief of the General Staff (CGS), Army General Makarov. The Defense White Paper of 2003 had been the first Russian security document to express the need for restructuring the armed forces into Western-type expeditionary forces, comprising well-equipped and well-trained troops with strategic air- and sea-lift capacities, which could be deployed in irregular operations rapidly and far away from the motherland. However, under Putin no structural modernization plans were undertaken, except preparing for the introduction of a large amount of modern weapons.

The following organizational deficiencies of the Russian army were to be solved. In terms of the armed forces' structure, after the end of the Cold War Western armed forces had mostly deleted obsolete unit levels, such as divisions and army corps. Furthermore, they changed their organizational structure from a considerable amount of mobilization formations to permanently ready units—filled with personnel and arms—exclusively. In deployments overseas Western armies used much smaller, mobile, and independent brigades (around 3,000 military) and battalions (around 700 military) as standard units. The Russian restructuring plans intended to follow similar lines of reorganization. With regard to the structure of the military, in 2008 only 20 percent of the military units were in permanent readiness status. According to the reform plans, most largely unfilled framework units were to be dissolved in favor of establishing permanent ready units. The restructuring measures dictated that in 2011 all (remaining) units should be permanently ready. Related to this was that the number of military units would be reduced from 1,890 in 2008 to 172 units in 2012. The total of 172 units would consist of 80 brigades, all permanently ready. These self-contained modular brigades would be capable of conducting operations independent of other units.

Analyzing the military reform plans, as announced since September 2008, the following features dominate in the intended restructuring and modernization of the military:[7]

- ❑ improving the combat readiness of the armed forces; all military units must become permanently combat ready;
- ❑ forming in each of the six military districts an airborne brigade as a quick-reaction operational-level unit;
- ❑ reducing the number of senior officers but increasing that of junior officers and non-commissioned officers:
  - reduction of the officer corps from 355,000 officers (some 30 percent of the manpower) to 150,000 officers (15 percent);
  - reduction of ministerial and headquarters staff positions by 60 percent from 22,000 to 8,500;
  - implementation of a new military personnel category of professional non-commissioned officers (NCOs);
- ❑ preferring nuclear weapons above conventional arms, in improving combat readiness as well as in priority of procurement;
- ❑ from 2009 to 2011 $140 billion to be spent on procurement of modern weaponry, and from 2011–2020 in total between $420 billion and $1.2 trillion on procurement, thus with a maximum of some $100 billion per year;[8]
- ❑ reduction in the number of battle tanks from 23,000 to 2,000 (of which only 300 pieces are modern); and
- ❑ the replacement of the six Military Districts by four Joint Strategic Commands by December 2010.

ASSESSMENT OF AND OUTLOOK ON RUSSIA'S MILITARY

Military reform has become inevitable for Moscow, considering the obsolete conditions of the armed forces, domestic violence in the North Caucasus, China's rise as a military (super)power

and the desire for nuclear arms parity with the United States, to underline Russia's international position. Lower staff levels and burden of command and control (by deleting divisions and regiments), more troops available for combat action (by creating a more balanced ratio of officers versus soldiers and lowering the average age), as well as concentrating on modern-equipped permanently ready and rapid-reaction units would improve decision-taking and usability of the military and provide the Kremlin with power projection capabilities in support of its foreign security policy. These were the main objectives of President Medvedev when he took active involvement in modernizing Russia's military power.

The restructuring to a *brigade structure* was executed at a fast pace; in June 2009 50 brigades were already formed and in December 2009 the full amount of some 80 brigades was to be accomplished.[9] Additionally, if Moscow was to apply power projection more successfully than in the Georgian conflict, rapid-reaction forces would be required, capable of conducting operations at short notice. For this purpose airborne brigades would be formed in each military district. Concerning personnel, the plans aimed to end the discrepancy in the overload of officers compared with soldiers (until now officers mad up between a third and half of the armed forces), and to organize a professional non-commissioned officer corps. This would enhance the number of available combat troops and increase the combat readiness of the military. In December 2009 the number of officers had already been reduced from 355,000 to 150,000 and the category of warrant-officers—numbering some 142,000 servicemen—had ceased to exist.[10] With regard to the status of weaponry, the usual ratio between new and obsolete weapons in armed forces is 80 to 20 percent; however, in the Russian armed forces in 2008 this figure was 20 modern versus 80 percent outdated. To solve this shortcoming a large-scale rearmament of the armed forces was to start in 2011.

In autumn 2010, two years after the start of the military reforms campaign, the situation of the armed forces had not yet improved markedly.[11] The army had already undergone radical changes, from a mobilization to a permanently ready status, from a corps and divisions to a brigade structure, and from military districts into joint strategic commands. Of course, the long-time shortcomings within the Russian army could not easily or swiftly be solved. Technological deficiencies, such as those in communications, command and control systems, and reconnaissance (e.g. drones), lack of fuel, insufficient armor for fighting vehicles, and the increasing number of obsolete arms, were still present. However, in combination with the cuts in manpower of officers and the reduction in obsolete equipment, as yet without replacement by a newly introduced NCO corps and sophisticated weaponry, the combat readiness of the military had further deteriorated. For instance, a suicide bombing attack on a military base in Dagestan in early September demonstrated the lack of medical officers, caused by reducing the number of military medics by a factor of four.

For a number of reasons it is uncertain whether the restructuring plans for 2020 will be fully carried out and will be successful in enhancing the capabilities of the military.

First, since 1991, the armed forces have often been faced with military reforms which were not carried out, because of obstruction by the military leadership and a lack of will of the political security elite.

Second, although Russia's defense budget had risen rapidly under Putin, there was no considerable improvement visible in the combat readiness of the forces. The defense expenditures increased tenfold, from some $5 billion in 2000 to some $50 billion in 2009.[12] However, in spite of the sharp boost to the defense budget the average annual inflation in this period was more than 10 percent, thus lowering the effectiveness of increased financial means. Although defense expenditures under Putin augmented, as a percentage of Gross Domestic Product (GDP) they actually went down, for instance from 4.29 percent in 2000 to 3.9 percent in 2007.[13] In 2009 defense spending further increased, but due to the financial crisis only 12.6 percent instead of the foreseen 24 percent growth. In the coming years the defense budget is to grow further from 2.9 percent of GDP in 2010 to 3.2 percent of GDP in 2013.[14] Furthermore, at the operational level, money often disappeared into the pockets of corrupt officers or was used inefficiently. Defense Minister Serdyukov, a former tax official, was appointed to this post by former President Putin specially to counter corruption and obstruction by the military leadership. He faced much opposition from the military leadership to his reform plans, due to the intended deep cuts in the officer corps and in the central staff. Serdykov crushed the opposition by sending generals into retirement. Additionally, he filled his department with tax inspectors, in order to keep

accountancy strictly under control. Thus, Serdykov implemented an energetic policy at the central level but nevertheless with the uncertainty of implementation on the local/unit level, which could affect the intended improvement of combat readiness.

Third, Russia was suffering heavily from the international financial crises, to an extent that the financial reserves built up by oil and natural gas revenues were fading away rapidly. Money was possibly needed more to avoid social unrest than to invest in military power. An indication of the financial problems was apparent in March 2009 with the announcement that the defense budget for 2009, 2010, and 2011 would be cut by eight percent.[15]

Fourth, although aiming to reform its military into Western-style expeditionary forces, Russia's security elite continued to consider combat readiness and modernization of nuclear arms as its first priority, which was not consistent with the overall reform plans and could prove to be counter-productive to conventional arms reforms.

Fifth, due to the inefficiency of the MIC and its contracts for arms export—meaning crucial revenues for the upkeep of the MIC—the output capability of the military industries was likely to be insufficient to deliver the requested amount of modern weapons for the Russian armed forces. Around December 2008 the reform plans still insisted that by 2020 the figure for modern weapons and equipment would be raised to 80–100 percent of the total. However, in March 2009, the modernization aim was lowered to 70 percent advanced weapons in 2020.[16] To solve the shortcomings of its own MIC the Kremlin, for the first time, started to look to the West for weapons purchases. Hence, the Kremlin considered the interests of the armed forces as more important than those of the MIC. Russia's interest in foreign procurement included French Mistral amphibious helicopter carrier ships and night-visibility equipment for tanks, Israeli unmanned planes, and Italian small arms and infantry vehicles. The Russian–Georgian conflict of August 2008 had demonstrated the need to increase reconnaissance and related modern means, for instance by introducing drones.[17] In September 2010 the Russian and Israeli MoDs signed a military cooperation agreement, with an emphasis on the sale and training of unmanned aerial vehicles (UAVs) and on setting up a joint drone production unit in Russia.[18] As to the French Mistral, it is worth mentioning that the Netherlands, Spain, and South Korea were also nominated to deliver such vessels should France not provide these amphibious landing ships.[19] Clearly, the Russian MIC was not amused by the approaches of the Kremlin to the West.

Sixth is the miserable status of the armed forces' personnel. In 2008 about half of the military consisted of officers, a typical case of 'many chiefs and too few Indians'. Furthermore, the Ministry of Defence (MoD) did not possess a recruiting system capable of finding good contract soldiers and sergeants.[20] As a result of the restructuring, with a total strength of approximately 1 million, military manpower will consist of the following categories: 80,000 professional soldiers, 650,000 conscript soldiers, 105,000 professional NCOs, and 150,000 (professional) officers.[21] In addition to deep cuts in the officer corps this professional group suffered from relatively low wages and bad medical, education, and housing provisions, which resulted in low morale. As to salaries, lieutenants' wages were two-thirds of the average national pay. Conscripts received only $30 per month.[22] Furthermore, Russia had never attained a professional NCO corps. This objective of the MoD was now being implemented but as a result of similar appalling conditions such as those for the officers, the inexperience with this military category, and the very limited zest for joining, the prospects of a successful build-up of a NCO corps were rather gloomy.[23] Finally come the ranks. Traditionally, the soldiers have suffered from *dedovshchina*—''hazing'', resulting in injuries or even death—the reason why many potential conscripts evade the draft. Furthermore, many eligible young men are declared unfit for health reasons. These circumstances, together with the longstanding drop in population size, means that there are too few conscripts to fill all available positions.[24] Considering the demographic problems and the fact that more than two-thirds of manpower of the armed forces depends on conscripts it is doubtful that the military will reach full strength. A partly staffed army cannot conduct power projection to its full extent. Thus, a change to all-volunteer armed forces seemed inevitable. However, lack of finance and unsuccessful recruiting raised doubts about such a change, even if this was acceptable to the political and military leadership.

Consequently, a variety of political, financial, industrial, demographic, and conceptual obstacles affected the upgrading of the military, making it doubtful that Russia was capable of and willing to carry out the required military reforms from top to bottom. Hence, it was uncertain that Moscow

was going to acquire fully modernized armed forces, skilled in power projection, to accomplish the political-strategic objectives of the foreign security policy of the Kremlin.

WHAT TO EXPECT?

What will happen if Russia persists in carrying out its rearmament plans and other military reforms, and—in spite of all the aforementioned obstacles—is able to (at least partly) realize them around 2020?

First of all, it is surprising that the sale of Western-made sophisticated and offensive weapon systems to Russia does not lead to discussions in NATO or the EU, in spite of the fact that Moscow can use these means also against partners of the West, such as Georgia. Obviously, Western economic interests weigh heavier than those of military security.

Second, even with armed forces that are partly equipped and thus modernized by the West this does not mean a return to a situation similar to that of the Cold War, in which the West was confronted by the threatening strong conventional-military supremacy of the Soviet Union. Around 2020, although disposing of more sophisticated armed forces, militarily Moscow will still to a large extent be inferior to the West, both in numbers of troops and in quality of weapons. On the other hand, the Kremlin might accomplish the capacity to launch aggravating hits, which could be detrimental to Western security interests.

The currently planned military capacities would provide Russia with regional power projection: to act where Moscow feels its interests are threatened or where it wishes to reinforce them. The Russian military and political leadership concluded that the Russian–Georgian conflict of 2008 had only become a victory for Moscow because of its superiority in numbers, in spite of the considerable shortcomings in conduct of operations and failing arms and equipment. With the foreseen build-up of the armed forces by 2020 those shortcomings will be relieved, providing Russia with a military apparatus capable of making difficult neighbors, such as Georgia, toe the line, or exercise power projection in other ways. Besides Georgia, Russian military action could possibly be expected against Azerbaijan or Ukraine, if the latter were to return to a pro-Western stance. The reason for this is that the Caucasus region and its surroundings are for the West of economic (energy) and strategic importance.[25] The same applies to the Arctic region, where already a military build-up is taking place between Russia and Western countries.[26] Furthermore, the Baltic States have expressed their concerns regarding Russia's Baltic Fleet, after it is equipped with a Mistral-type of amphibious assault ship, and even more since after the 2008 Georgian conflict the Baltic States are no longer so convinced of NATOs military assistance.[27]

The modernized Russian army will certainly not mean a return to the days of (Soviet-) Russian military superiority over the West. However, it might become a nuisance to neighboring countries and regions and, hence, also for NATO. Therefore, it is not unthinkable that as a result of the planned Russian military power by 2020, collective defense will move up as a topic on the allied (NATO) agenda. Such a development might mean that peacekeeping missions will receive lower priority and NATO exercises in military assistance and in conflicts against modern, regular opposing forces will obtain higher priority. Related to this, such a change in operational concepts might also result in the restructuring of NATO and also of the armed forces of its member states. Expeditionary capabilities will remain a priority, but subsequently with more heavy weapons systems, such as bombers, tanks, and frigates. However, such a different view of military scenarios is still distant. Moreover, it is also doubtful whether the new Russian army will acquire the capacity for regional power projection. Nevertheless, considering the possible consequences for Western military structures and operations, for Western observers it is certainly important to keep close track of and a detailed analysis of Medvedev's modernization of the armed forces of the Russian Federation.

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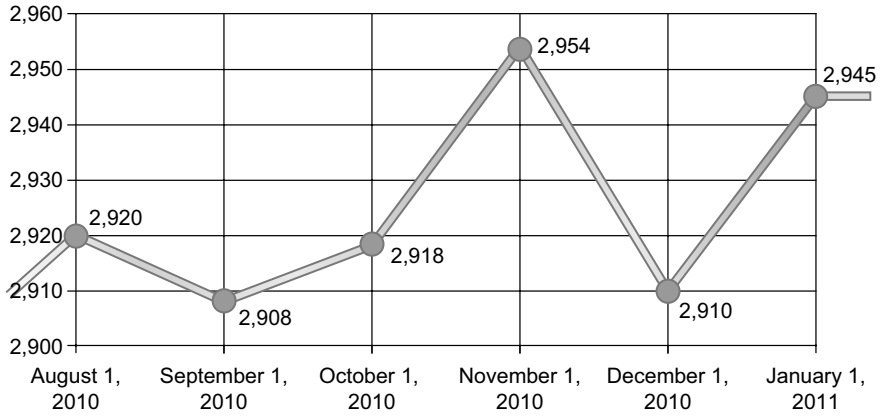
REVIEW OF RECENT WORLD EVENTS: SEPTEMBER–DECEMBER 2010

Figure 1. **The International Security Index (*iSi*) in September-December 2010**



ISI INDEX IN SEPTEMBER–DECEMBER 2010: THE AUTUMN OF *DÉTENTE*

The International Security Index (*iSi*) has been rising all throughout the autumn, reflecting an improvement in the global security situation. From 2,908 points on September 1 the *iSi* rose to 2,918 points by October 1 and 2,954 points by November 1. The index benefitted from a certain stabilization in the key hot spots. That stabilization, however, has failed to translate into any tangible results. Iran and North Korea declared their willingness to resume nuclear talks with the international community. Direct talks between Palestine and Israel, with the U.S. acting as mediator, resumed in September – but eventually broke off without any resolution. China's unwillingness to let the yuan strengthen soured its relations with the West. The Nobel committee's decision to award this year's Peace Prize to Chinese human rights activist Liu Xiaobo, who is serving a jail term for opposing the Chinese government's policies, stoked tensions between Beijing and Washington even further. New problems came to the fore following last summer's natural disasters. Droughts and forest fires, which in some places gave way to floods and mudslides, led to serious losses of crops in Central and Eastern Europe, including Russia and Ukraine. As a result, wheat prices have hit record highs. During November the *iSi* was falling – till 2,910 points reflecting primarily the sharp deterioration of the military-political situation on the Korean peninsula. But in December mostly due to the new START treaty ratification by the U.S. Senate the index was up again to 2,945 points.

On the whole, events in September-December 2010 were in line with the overall trends of that year. The global security focus remained firmly on the Middle East, the Korean peninsula, Afghanistan, Pakistan and Kyrgyzstan.

- **Afghanistan–Pakistan**. On September 18 Afghanistan held its second parliamentary election since the ouster of the Taliban regime in 2001. Despite numerous rebel attacks on polling stations, serious irregularities and low turnout, the elections were declared valid. The government continued its attempts to begin negotiations with the Taliban. The military

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situation remained very difficult in the south of the country. The international security forces conducted a military operation codenamed Operation Dragon Strike in the Arghandab, Zari and Panjwai provinces in an effort to dislodge the Taliban from their southern strongholds. U.S. troops were also involved in heavy fighting with the Taliban in Pakistan's Northwest Frontier Province. Casualties continued to grow among the civilians. The commander of the international forces in Afghanistan, Gen David Petraeus, requested a further 2,000 soldiers to be sent to the country. The situation in Afghanistan and possible ways of stabilizing it was at the top of the agenda of the OSCE summit in Astana (Kazakhstan) in December 1–2, 2010. Despite some disagreement during the debates about the ways of reaching settlement in the key hot spots, the participants approved a final declaration.

- **Middle East**. Direct talks resumed on September 2 between the head of the Palestinian national administration, Mahmoud Abbas, and Israeli Prime Minister Benjamin Netanyahu. At the end of the first round the two sides decided to start working on a new framework agreement on peaceful settlement. But in mid-September the talks broke down after Israel refused to extend the moratorium on construction in the West Bank. The Israeli government said it would suspend construction and return to the negotiations if the Palestinian National Authority recognized Israel as a Jewish state. The Palestinians rejected the proposal. In response, the Israeli government announced a contract for a new housing development in Eastern Jerusalem. Talks resumed between the two rival Palestinian parties, Fatah and Hamas, with Egypt and Saudi Arabia acting as mediators. Israel expressed its willingness to resume peace talks with Syria. The situation remained tense throughout the autumn on the border between Israel and the Gaza strip, as well as the Israeli-Lebanese border. Clashes took place in Jerusalem between the local Arabs and Israeli police. In December the Israeli authorities eased their blockade of the Gaza strip.

*Konstantin **von Eggert**, Member of the Royal Institute of International Relations (**United Kingdom**) – by e-mail from **Moscow**:* The international security situation remained largely unchanged throughout the autumn of 2010. Iranian President Mahmoud Ahmadinejad's visit to Lebanon and the ensuing anti-Israeli rhetoric stoked tensions in the Middle East. Israel's refusal to extend the moratorium on construction in the West Bank led to the disruption of talks with Palestine, which had resumed in early September. The few positive security developments include the imposition of unilateral sanctions against Iran by the United States and the EU following the adoption of a UN Security Council resolution on June 9.

Iran. On August 21 Iran launched the *Bushehr* Nuclear Power Plant. Russia, whose engineers had built the plant, and several other countries which had welcomed its launch, including China and France, tried to demonstrate to Tehran the benefits of following IAEA rules and pursuing nuclear cooperation with the international community. But those efforts failed to yield any tangible results. Meanwhile, computer security experts discovered the Stuxnet worm in Iranian computers. The Iranians believe the virus was specifically designed to attack the *Bushehr* NPP. That only fuelled the suspicions of the Iranian leadership. The country continued to build up its uranium enrichment capacity. On September 6 the IAEA released its country report on Iran stating that Tehran continued to pursue a nuclear program in contravention of UN Security Council resolutions. The report also said the IAEA was beginning to face difficulties in monitoring Iran's nuclear activities. Citing the UN Security Council Resolution of June 9, 2010, Russia banned exports of the *S-300 SAM* system to Iran. In mid-October Iran said it was willing to resume talks with the *Group of Six* on its nuclear program. The talks resumed on December 6; another round is expected in early 2011.

*Evgeny **Satanovsky**, President of the Institute for Middle East Studies (**Russia**) – by e-mail from **Moscow***: The international security situation took a turn for the worse in the autumn of 2010. The withdrawal of U.S. troops from Iraq led to an increase in the activity of Islamic radicals in the country and the whole region, including some former Soviet republics. The victory of Turkish President Rejep Erdogan's Justice Party in the referendum to change Turkey's constitution also had a negative impact on security in the region. It cannot be ruled out that as the Turkish army's influence on the country's politics weakens, Ankara will gradually turn into a supporter of radical Islamist movements. Positive security developments in the Middle East include the end of the 10-month moratorium on construction in Israeli settlements; that construction provides jobs for the Palestinians living in Judea and Samaria. Another positive development is the weakening of the Barak Obama administration ahead of the Congress elections and the departure of the *new left* leaders such as Rahm Emanuel.

The imminence of a war between Iran and Israel is becoming increasingly obvious. The Middle East and South Asia are also facing security threats in the Maghreb (the Maghreb Al Qaida), Somalia (Al-Shabaab), Yemen (the Khasi tribes of the North and the pro-KSA tribes of the Center and South), Pakistan (serious tensions between the country's military leadership and the United States), and Afghanistan (where the Taliban have essentially won, and the Karzai government is seeking talks with the Islamist rebels). In Gaza, Lebanon, Iraq, Afghanistan, Tajikistan and among the Shia communities of the Gulf and Pakistan the public opinion is becoming increasingly hostile to the United States, Israel, and the regional and local Sunni elites of Iran. The central government is weakening in Egypt, Jordan and the Palestinian National Autonomy. A further deterioration can be expected in Sudan ahead of the referendum on independence for the South.

Iraq. In early September Barak Obama declared that Operation Iraqi Freedom was over and that responsibility for security in the country had been transferred to the Iraqi forces. Some 50,000 U.S. servicemen remain in Iraq to train and support the Iraqi army. But the political crisis in the country continues unabated. In the months that have passed since the parliamentary elections in March the parties that have won seats in parliament have failed to form a government. The country remains on the highest level or security alert due to unceasing terrorist attacks.

*Abdulaziz **Sager,** Chairman of the Gulf Research Center (**Saudi Arabia**) – by e-mail from **Dubai**:* The situation in the Gulf remained extremely volatile throughout the autumn of 2010. All attempts to persuade Iran to suspend nuclear enrichment failed. The more or less consolidated position of the leading powers in putting pressure on Iran is but a small fraction of the work that needs to be done. The political deadlock in Iraq, which is still without a government following the elections in March, is adding to the country's security problems. Al Qaeda is becoming more active in Yemen, where the central government has very little power and the whole country is in a state of lawlessness. That is becoming one of the primary security threats to the neighboring Gulf states. There is a distinct prospect of military conflict and a nuclear arms race in the region. The status quo is a lesser evil for global security, but it means continuing crisis and inability to resolve global problems.

- **Korean peninsula.** Military-political tensions on the Korean peninsula subsided in early September after the United States and South Korea announced a postponement of military maneuvers in the Yellow Sea. The North declared its willingness to resume bilateral talks with the U.S. as well as the Six-party talks. **Kim Jong-il** was re-elected as Secretary-General of the Workers Party at the party congress on September 28. His youngest son, **Kim Jong Un**, was trotted out as the apparent successor. Talks between Pyongyang and Seoul to prevent any future border incidents following the sinking of a South Korean warship, the *Cheonan*, ended without any results after the South demanded an apology for the incident. In October an increase in activity was detected at North Korea's main nuclear range, where the previous nuclear tests were conducted.

On December 23, the South Korean armed forces conducted a military exercise close to the demilitarized zone, which separates the country from North Korea. Only in late December did Seoul give stand-down orders to its forces in the Yellow Sea, which were put on the highest state of alert following the exchange of artillery fire with North Korea in late November.

- **Former Soviet republics**. In **Kyrgyzstan** the situation remained tense throughout the autumn. Ahead of the parliamentary elections on October 10 the capital Bishkek saw protests by relatives of those killed during the coup in April. The protesters were joined by officers of the national security service outraged by the indignities to which their commanders had been subjected. Despite some irregularities, the elections were declared valid. Five parties cleared the five-percent threshold to win parliament seats. They began coalition talks without waiting for the announcement of the official results. Under the recent changes to its constitution Kyrgyzstan has become the first republic in Central Asia with a parliamentary form of government. After two months of coalition talks, the Kyrgyz parliament formed a government on December 17.

*Farkhod **Tolipov**, Professor of Political Science at the National University of Uzbekistan (**Uzbekistan**) – by e-mail from **Tashkent**:* The security situation in Central Asia has been affected by the escape of prisoners from a KGB (Committee for State Security) prison in Tajikistan and the outbreak of heavy fighting in the Asht District between armed rebels and government troops. The events became an echo of the Tajik civil war in the 1990s. The Kyrgyz authorities continue their persecutions of ethnic Uzbeks in the south of the country. Positive security developments include the relatively successful operations of coalition troops in Afghanistan and some indications that the Taliban might be ready for talks with the government. The OSCE summit in Astana in December was expected to make a tangible contribution to regional security.

The **Moldovan** referendum on electing the president by direct popular vote rather than by parliament held on September 5 was declared invalid due to low turnout; the old constitution remains in force. The failure of the referendum has led to snap parliamentary elections being called. Other security developments in the region included continued rebel attacks in **Tajikistan** and tensions along the line dividing the **Armenian** and **Azeri** troops.

In December the **Belarusian** President Alexander Lukashenko was re-elected for yet another term of office; an opposition protest was dispersed by riot police. Minsk refused to renew the mandate of the OSCE office in Belarus after the organization voiced numerous criticisms of the election.

At a **EurAsEC** meeting held in Moscow on December 9 the presidents of Russia, Kazakhstan and Belarus signed the last documents required for the common market agreement between the three countries to enter into force.

- **Europe**. Economic reforms and austerity measures being implemented by a number of European countries in the wake of the world financial crisis triggered a wave of street protests in Bulgaria, Romania, Slovenia, Greece, Belgium, Britain, Lithuania, Latvia and Estonia. The biggest protests took place in **France**. President Sarkozy's pension reform, which will increase pension age from 60 to 62 by 2018 and to 67 by 2030 drew sharp criticism from the trade unions. Some two million people took to the streets. Many pumps throughout the country ran dry after workers at the oil refineries joined the protests. Many other sectors of the economy were also hit. But despite the protests, on October 22 the Senate passed the reform bill into law. **Britain** saw angry student protests against parliament's decision to increase tuition fees. In December strikes continue in **Greece** and other European countries in protests against economic austerity measures.

Direct talks between **Serbia** and **Kosovo** scheduled for October 2010 were postponed until 2011 following the resignation of the Kosovan president and the resulting power vacuum. Early elections have been scheduled for February 13, 2011. Explaining their decision to postpone the talks with Serbia, officials said Kosovo needed some stability in its institutions and a new government before entering dialogue.

- **Strategic stability and nuclear security**. Autumn 2010 passed without the ratification of the new START treaty between Russia and the United States. The treaty requires the approval of the U.S. Senate and both chambers of the Russian parliament before it can come into force. This treaty signed by Dmitry Medvedev and Barak Obama in Prague on April 8 stipulates further cuts in strategic offensive arsenals. On May 13 Barak Obama submitted the treaty to the Senate. On September 16 the Senate Foreign Relations Committee approved the resolution to submit the treaty to the Senate's approval. But partisan rivalry ahead of the November 2 Congress election delayed the vote until the period between the election and the first sitting of the new Congress in early January 2011. In December the index was buoyed by the ratification of the treaty by the U.S. Senate and the entry into force of the agreement between Moscow and Washington on peaceful nuclear energy cooperation, also known as the 123 Agreement.

  The **NATO** summit in Lisbon was the central event of November 2010. The member states adopted a new strategic concept of the alliance. Cooperation with Russia was given a prominent role in the document. NATO members also discussed a project to create a collective missile defense system that would protect the whole Europe. At the NATO-Russia Council meeting on November 20 Moscow received new proposals on missile defense cooperation.

- **Africa**. Tensions increased in **Sudan** ahead of the referendum on self-determination of the South and the status of the disputed oil-rich territories scheduled for January 9, 2011. Khartoum insists that the poll should be postponed until the administrative borders of the region within Sudan are determined. Clashes resumed between the supporters and opponents of the secession of Southern Sudan. Both sides accuse each other of military build-up. Amid growing tensions, the authorities of the Southern Sudan autonomy were forced to appeal to the UN Security Council to send peacekeepers. Meanwhile, the first groups of observers have begun to arrive in Sudan to monitor preparations to the referendum.

  In **Somali**, fighting continued throughout the autumn of 2010 between government troops and Islamist rebels which control southern and central Mogadishu. Somali pirates continued their depredations; the African Union asked the UN Security Council to impose a naval and air blockade on Somali and bolster its peacekeeping contingent. The AU believes these measures will help to end piracy and cut off the supplies of weapons to the local Islamists. The terrorist threat remained high in Algeria, the Maghreb, Mauritania and Niger. Rising food and fuel prices led to violent clashes between protesters and the police in Mozambique.

  In December the situation was very tense in **Ivory Coast**, where the incumbent, Laurent Gbagbo, refused to concede his defeat in the presidential election. The new government is not ruling out the use of force to ouster him. In **Tunisia** there were violent clashes between protesters and the police; the government has imposed a curfew.

- **Natural and man-made disasters** had a significant impact on the global security situation. These included an earthquake in China, floods in Pakistan, and a volcano eruption in Iceland. Record-high temperatures and droughts in Russia led to large forest fires in densely populated parts of Central Russia and the Volga region.

Galiya Ibragimova

MISSILE DEFENSE: WITH OR WITHOUT RUSSIA

In the autumn of 2010 rumors of a possible compromise on missile defense being negotiated with Russia triggered something of a storm in Washington. On June 16, 2010, *the Washington Times*, which is thought to be close to the Republicans, sited unnamed officials involved in arms control issues as saying that the Obama administration was in secret talks with Russia. The deal on the table, the newspaper said, could limit the capabilities of the U.S. missile defense system. It also claimed that in May 2010, during talks between U.S. Undersecretary of State Ellen Tauscher and deputy Russian foreign minister Sergey Ryabkov the Russian side received a draft of the proposed treaty on missile defense.[1]

Senior DoS officials immediately announced that there were no secret deals between Russia and the US on any issues related to the new START treaty, including missile defense. But saying that there are no deals is not the same as saying there are no talks under way. It is known for a fact that Russian–U.S. cooperation in this area has been discussed as part of the so-called arms control and international security working group led by Tauscher and Ryabkov. The specific proposals on the agenda include research and development; modeling; tests and missile defense exercises; and ''joint analyses of alternative U.S.–Russian missile defense architectures for defending against common, regional threats''.[2]

Russian Foreign Minister stoked the controversy by saying in an interview on October 1, 2010 that the Tauscher-Ryabkov group was working on direct orders from the Russian and US presidents, who had agreed to conduct joint expert review and reach a shared understanding of where the risks of missile proliferation are coming from and who exactly is at risk. ''The document should soon be ready,'' Sergey Lavrov said. ''I hope that once it has been agreed we can talk about taking the next step of looking jointly with our partners, including the Europeans, for ways of countering those risks – starting from diplomatic and political steps, and also with the option of bringing economic pressure to bear on those who could pose such risks. Neither must we rule out the possibility of using military and technical resources in order to be prepared if a real threat arises.''[3]

That statement, which was picked up by the world media, only fuelled the concerns of several U.S. senators. They demanded that the Department of State explain what exactly the Tauscher-Ryabkov group was up to and grant them access to all the documents produced by the group, including diplomatic correspondence. In his reply to the senators DoS representative Phillip Crowley repeated Lavrov's words that there was no missile defense agreement on the table between Russia and the United States, and that the two sides were just discussing preparations for a joint analysis of missile threats in the 21st century.

It appears that this unwanted public attention to the work of the Tauscher-Ryabkov group had brought to light some very delicate issues in U.S.–Russian relations which Moscow and Washington would have preferred to keep under wraps for the time being. The Russian envoy to NATO, Dmitry Rogozin, hastened to reassure the public that there were no secret talks under way on any new U.S.–Russian missile defense treaty, and that the sides were just ''sounding out each other's positions''. But that ''sounding'' has actually become something much more serious. According to Rogozin himself, the ongoing U.S.–Russian consultations on missile defense involve several diplomatic channels. The Gates-Serdyukov working group is studying the military and technical parameters of possible cooperation on missile defense.[4] The Tauscher-Ryabkov group is focusing on the political aspects, and ''working consultations'' continue in the NATO-Russia Council. (Ryabkov forgot to mention that the Russian Security Council and its U.S. counterpart, Under Secretary Van Diepen, are also involved in joint analysis of missile challenges.) It appears that Rogozin was not singing from the same sheet with his boss, Sergey Lavrov. The Russian foreign minister had clearly said that "the document should soon be ready", whereas his subordinate Rogozin claimed, much to the disappointment of the Russian side, that all these consultations had so far failed even to ''define the common risks and challenges''.[5] It remains to be seen which one of the two officials was right.

Be that as it may, there is no smoke without fire. For all the reassuring statements by the DoS and the Russian Foreign Ministry, the U.S. Senators have every reason to worry. Any joint analysis of missile threats, let alone discussions about ''alternative U.S.–Russian missile defense architectures'' to defend against those threats will inevitably reflect to some extent Russia's position on the issue and take into account Russian interests. That position is well known: Russia wants to minimize the scale of the U.S. missile defense program, and ideally to have it scrapped altogether. Meanwhile, the joint document outlining the missile threats facing the United States, Russia and Europe will have to be taken into account by Washington when the missile defense plans and programs are finalized. The nature and the scale of those threats is the basis on which any proposed countermeasures should be built. In other words, as soon as this ''joint analysis'' of missile threats and the development of ''alternative (alternative to what?) U.S.–Russian architectures'' is completed and approved by the two governments Moscow will have a serious instrument to put pressure on Washington and NATO. Leaders of the NATO alliance, meanwhile, will think seriously about involving Moscow in the development and rollout of a European missile defense system.

Speaking on September 17, 2010 at the Aspen Institute in Rome, NATO Secretary-General Anders Fogh Rasmussen formulated two radically new ideas. First, the future European missile defense system should be created under the NATO auspices, rather than on the basis of bilateral agreements between the US and individual European nations. And second, that system should include Russia because ''unless we make a clear offer to Russia we would risk that Russia, rightly or wrongly, would be kept outside the tent, and, as a result, unsure of how this might affect her security''.[6]

The idea that a European missile defense system must be developed and rolled out under the NATO auspices makes a lot of sense. It would prevent NATO from splitting into two groups: those who are protected from the possible Iranian nuclear-missile strike, and those who are left out in the cold. But getting all 28 member states to agree on the extremely complicated technical, military and political aspects of the future missile defense system will be a monumental task. Agreeing on whether and how to involve Russia in NATO's missile defense efforts will be even more difficult.

In terms of technology, Russia's contribution to the European missile defense system would be negligible. Even the most advanced Russian SAM systems that could potentially be used in the missile defense shield, the *S-300 PMU2 Favorit* and the *S-400 Triumf*, have a very limited vertical and horizontal range against ballistic targets (see Table 1). They can be used to intercept the enemy warheads only at the terminal phase of their trajectory, at an altitude of up to 27 km. In other words, theoretically they can be deployed to protect several strategic facilities or, at best, a small number of key cities. It would take hundreds of *S-300* or *S-400* missile batteries to defend the entire European continent, so for these purposes they are next to useless.

The American SAM systems would therefore be much more useful for a European missile defense shield. The ship-based Aegis systems can intercept enemy warheads not just at the terminal phase of their trajectory but also shortly after the end of the boost phase. These systems are equipped with the *Standard Missile-3* interceptors, which can destroy missiles and warheads at an altitude of up to 160 km, with a range of up to 500 km. The missile defense systems that rely on ground based interceptors (GBI) can intercept the warhead during the midcourse phase, and the THAAD systems at the terminal phase. Their tactical characteristics are less impressive than Aegis: the maximum intercept range for the THAAD system is 200 km, with a maximum intercept altitude of 150 km. These figures, however, are still head and shoulders above anything the Russian *S-300* and *S-400* systems can offer. Theoretically the United States and NATO might be interested in receiving information about the launch and trajectory of the Iranian missiles from Russia's Voronezh-type early warning radars deployed in the south of the country and from the Azeri radar in Gabala leased by the Russian MoD. But these radars can play an auxiliary role at best. They cannot guide the interceptors, and therefore cannot serve as a replacement for the U.S. missile defense radars.

Since neither the United States nor NATO has any great interest in the missile defense technology Russia can offer, what then is the point of inviting Moscow so persistently to take part? Washington and Brussels may be hoping that since Moscow does not have any real means of defending its territory against a potential Iranian missile strike, the Kremlin will be interested in missile-defense cooperation with the U.S. and NATO, and desist from its attempts to stymie the whole program. The Obama administration may also hope that by declaring its Reset with Russia a triumph, it will be able to compensate for its other foreign policy failures. Such motives are fully in line with normal strategic logic.

But the Kremlin and the Russian Foreign Ministry have their own logic. Accurately describing that logic would require terms unthinkable in polite society. Sergey Lavrov, for example, says with a straight face: ''We have no proof that Iran wants to acquire a nuclear bomb. We have no proof that

Table 1. ***S-300* and *S-400* Air Defense Systems**

	S-300 Favorit	***S-400 Triumf***
Range against ballistic target	5–40 km	7–60 km
Ballistic target intercept altitude	2–25 km	2–27 km
Maximum warhead speed	2.8 km/sec	4.8 km/sec

Source:
Almaz-Antey Air Defence Concern, http://www.raspletin.ru

Iran has made a political decision to enrich uranium for weapons purposes''.[7] His deputy Alexander Grushko goes even further:

> ''We will take part in the missile defense system only if it is equal partnership, and if we have guarantees that while cooperating with Russia, the NATO countries will not create their own systems that could damage our strategic stability and undermine the Russian strategic potential. ... For now, we are lacking some key elements to make the decision on building a joint missile defense system. ... We are proposing a phased approach: at the first phase we should agree on a joint analysis of any real missile risks and understand whether those risks can actually degenerate into missile threats. Only then should we develop a system that would be adequate to those risks and that would be based on joint command and control mechanisms.''[8]

Several key issues draw attention in that statement. First, Grushko says that the *key elements* for a positive decision are lacking. The reason for that is, apparently, that Russia is only prepared to work with NATO if its member states, including the United States, abandon any plans to create their own independent missile defense systems. That has not happened as yet. Also, the deputy minister argues, the sides need to agree on the missile risks first, and only then discuss what the proposed joint missile defense system should look like. Finally, the turn of phrase about ''equal partnership'' between Russia and the Western members of the missile defense system apparently means that Moscow is insisting on the principle of *two buttons* in the command and control mechanisms of the future system, including joint decision-making on launching the interceptors. That principle of *two buttons* could make the entire European missile defense system useless: if Iran does launch a nuclear-missile attack, there will be mere second to authorize the launch of the interceptors. In other words, that authorization will have to be nearly automatic. On the whole, Grushko made it clear that even if Russia agrees to cooperate with NATO on missile defense, it will cooperate only on its own terms.

Evgeny ***Buzhinsky****, Head of the International Treaty Directorate of the Main Department of International Military Cooperation of the Russian Ministry of Defense (2002-2009), PIR Center Consultant (****Russia****) – by e-mail from* ***Moscow***: The global security situation remained largely unchanged throughout the autumn of 2010. Russia's decision to ban exports of the *S-300 SAM* systems to Iran could have far-reaching repercussions. The cost of the Iranian rearmament program is about $25 billion. Iran has never put too much trust in Russia. After Moscow's refusal to supply the *S-300* systems, that mistrust will only deepen, and bilateral relations will become much cooler. But Russia's main priority at this point is to improve relations with the West. In return for joining the sanctions against Iran the United States has ratified the agreement on nuclear energy cooperation and promised to allow Russian companies access to the U.S. market. Positive developments include Secretary of State Hillary Clinton's invitation to Russia to join the missile defense project. This has been the first high-level invitation from the Americans. If Washington is truly prepared to take into account our concerns about the missile defense program and to consider our proposals on the joint use of radars in Gabala and Armavir, such a turn would be a major contribution to regional security.

Other positive security developments included further rapprochement between Russia and Ukraine. After the signing of the agreement to extend the lease of the Black Sea Fleet base in Crimea beyond 2017 the two sides continued talks on the new principles of the operation of that base, including the replacement of the fleet's ships. Previously Ukraine was unwilling to allow Russia to replace ageing ships, and the fleet's fighting ability was therefore below average. Russia is also interested in the Ukrainian shipbuilding industry, so the decision to place orders with the *Mykolayiv* shipyards in Ukraine will add to the dynamics of the fleet's strengthening. Positive changes are taking place not just in terms of quantity but quality as well: the fleet is once again using the Ukrainian training ranges and deck aviation simulators, which is an important element of the program to improve its fighting ability.

Moscow seems to be much more interested in minimizing the U.S. and NATO missile defense programs than building effective defenses against an Iranian nuclear-missile strike. And all the while the Russian Foreign Ministry is pursuing the principle that the tougher the Moscow is with the West, the more concessions it will be able to extract.

Yury Fedorov

UKRAINE AND RUSSIA: A PROFITABLE EMBRACE

It is only at first sight that the ongoing *honeymoon* between Russia and Ukraine appears unexpected. For all the strategic inadequacies of the Ukrainian elite (which few will dispute), it is made of people who want to remain in charge of a large country and feather their own nests in the process. That means they will have to find some way of making the country's economy grow. Our Ukrainian neighbors are realists; they are well aware that Europe is on (or even past) the brink of a major economic shock. The E.U. is no longer able to bankroll Kiev's aspirations for *freedom and democracy.* The hope for the Ukrainian politicians now lies in the East. But for all the condemnation and even scorn sometimes heaped on them, didn't the Russian elite behave in the exactly the same way in 1991-1998, yielding one red line after another in its desperation to secure Western loans? The only difference here is that Moscow was giving ground on matters of real substance, whereas Kiev has so far made only token concessions. Let us give credit where credit is due: Yanukovich and his team have made no real sacrifices, but still managed to buy themselves a quiet winter and, quite possibly, a quiet summer as well.

It would be wrong to imagine that the rapprochement between Moscow and Kiev is deliberately pursuing some long term military-strategic goals. The issues on the table are purely economic. But that does not mean that the honeymoon has not resulted in any military-political or military-strategic consequences. Let us list some of the most important ones:

- For the next few years at least Russia can stop worrying about Ukraine becoming a staging post for some unfriendly actions or military pressure against our country. It is not just about Kiev no longer pursuing NATO membership. That membership was not strictly required to open up the prospect of old Soviet military infrastructure in Ukraine being used against Russia. What really matters is the radically new political atmosphere between Kiev and Moscow.

- The military-political situation in the northern and central Black Sea region has become far more favorable for Russia. The Black Sea Fleet is no longer facing the threat of a blockade. That makes the projects of building pipelines across the Black Sea more attractive. So it is not just a matter of image – there are tangible financial dividends to be reaped as well.

- The Russian defense industry has been given another few years of breathing space in which to replace critical imports with domestically produced product. Whether or not our defense contractors will make use of that opportunity remains to be seen. But the rapprochement with Ukraine has relieved the immediate pressure for now.

- Very fortunately for Russia, Ukraine is no longer on the list of countries where the United States and NATO can reasonably hope to station elements of their new missile defense system. That may be only temporary, but time is of the essence here. Even a small and relatively minor missile defense element built in Ukraine would be a real blow for strategic stability, and Russia's *Inskander* missiles could do little to repair the damage.

- Ukraine is unlikely to carry on with its policy of undermining Russian interests in the CIS republics. Of course, it would be too much to expect for Kiev to stop selling weapons to Moscow's rivals-there is simply too much money at stake. But at least Ukrainian military advisers and mercenaries will stop running wild in some very sensitive corners of Russia's back yard.

To summarize the pluses and minuses of the ongoing rapprochement, let us just say that the plusses are obvious, and they are not just geopolitical or economic. There are clear military advantages as well.

As to the minuses, everything boils down to how much the honeymoon will cost Russia. There is also the danger of the Kremlin becoming too preoccupied with Ukraine, to the detriment of our relations with our eastern neighbors. The East is far more important tactically and very promising strategically. And regardless of who is in power in Ukraine at any given moment, the country will never cease to be a *black hole* capable of swallowing all the resources thrown at it without any tangible returns. Anyone who entertains the idea that by tossing sops to the Ukrainian elite Russia can acquire a friendly political class in that country is woefully mistaken. A Ukrainian politician can be hired for a time – but he cannot be bought.

Of course, by preserving the Black Sea Fleet's main base in Sevastopol the Kremlin has kept its face and, let us be frank, retained a powerful tool of political influence as well. But that victory will be pointless – strategically pointless – unless Russia starts to develop its own military infrastructure in the Black Sea. Cooperation with the Ukrainian defense industry will be equally pointless unless Russia also pursues an import replacement strategy. The list can go on and on. The diplomatic and political victory in Ukraine will be worthless unless Russia uses the breathing space to build up its own geopolitical capability. Failure to do that will give Ukraine unprecedented arm-twisting powers over Russia, stronger even that Kiev had during President Kuchma's tenure. Some indications that the government in Kiev would be more than willing to use these powers if given a chance have already come to light.

Finally, the last question that keeps bothering me: if it is Russia who finances Ukraine, then why are economic growth figures in Ukraine stronger than in Russia? A conundrum indeed . . .

Dmitry Evstafiev

NOTES

[1] 'The Obama administration is secretly working with Russia to conclude an agreement that many officials fear will limit U.S. missile defenses, a key objective of Moscow since it opposed plans for a U.S. missile defense interceptor base in Eastern Europe, according to American officials involved in arms control issues. According to the officials, the administration last month presented a draft agreement on missile defenses to the Russians as part of talks between Ellen Tauscher, undersecretary of state for international security and arms control, and Russian Deputy Foreign Minister Sergei Ryabkov'. See: Bill Gertz, 'Inside the Ring', The Washington Times, June 16, 2010 http://www.washingtontimes.com/news/2010/jun/16/inside-the-ring-382424672/?page=1 (last accessed November 2, 2010).

[2] Frank A. Rose. Deputy Assistant Secretary Prospects for U.S.-Russia Missile Defense Cooperation. Remarks at the 11th Royal United Services Institute for Defense and Security Studies (RUSI) Missile Defense Conference. London, May 27, 2010, http://www.state.gov/t/avc/rls/142329.ht (last accessed November 2, 2010).

[3] Sergey Lavrov. Playing by the Notes. *Rossiyskaya Gazeta*. October 1, 2010, http://www.mid.ru/brp_4.nsf/2fee282eb6df40e643256999005e6e8c/39e55a022f510f9ac32577af002203bd?OpenDocument (last accessed November 2, 2010).

[4] Rogozin is apparently referring to the U.S.-Russian Defense Relations Working Group, which was set up during a visit by Defense Minister Anatoly Serdyukov in September 2010. It is known, however, that missile defense issues are also being discussed by the Russian-U.S. military cooperation working group chaired by the Russian chief of General Staff, Nikolay Makarov, and the Chairman of the U.S. Joint Chiefs of Staff, Admiral Mike Mullen.

[5] Anti-Russian Defense. *Kommersant*. October 21, 2010, http://www.kommersant.ru/doc.aspx?fromsearch=61 cbdade-e1e5-4017-b103-34b647967537&docsid=1525678 (last accessed November 2, 2010).

[6] Success Generates Success: the Next Steps with Russia. Speech by NATO Secretary General Anders Fogh Rasmussen at the Aspen Institute in Rome, September 17, 2010, http://www.nato.int/cps/en/natolive/opinions_66265.htm?selectedLocale=en (last accessed November 2, 2010).

[7] Russian Foreign Minister Sergey Lavrov in an interview with U.S. TV anchor Charlie Rose, New York, September 22, 2010, http://www.mid.ru/brp_4.nsf/2fee282eb6df40e643256999005 e6e8c /009af8dbb51cb0fac32577af003bba8e?OpenDocument (last accessed November 2, 2010).

[8] Interview with Deputy Russian Foreign Minister Alexander Grushko. *Interfax*. October 2, 2010, http://www.mid.ru/ns-dos.nsf/8aa6d005cdff4b79432569e70041fdc5/432569d800223f34c32577b200497c2c?OpenDocument (last accessed November 2, 2010).

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THE TRAGEDY OF THE LAST SHAH: MOHAMMED REZA PAHLAVI AND THE DEAD END OF ENLIGHTENED AUTHORITARIANISM

Gholam Reza Afkhami, The Life and Times of the Shah (Berkeley: University of California Press, 2009), 740 pp.

Reviewed by Konstantin von Eggert

On January 16, 1979, His Imperial Majesty Mohammed Reza Pahlavi, King of Kings and Light of the Aryans, arrived at Tehran's Mehrabad Airport to leave for Egypt. He was joined aboard a silvery Boeing 707 by his wife, Empress Farah, and his close entourage. Shortly before his departure the Shah had appointed the new prime minister, Shahpur Bakhtiyar, a constitutional monarchist with pro-Western liberal ideals. Bakhtiyar abolished the political police, restored freedom of speech and assembly, and hoped to reverse the roaring tide of people's protests. Millions were taking to the streets every day, chanting for the Shah's death and throwing themselves towards bullets with cries of ''Allah Akbar! Khomeini Rakhbar!''—''God is great! Khomeini is our leader!'' Bakhtiyar still hoped against hope that the official reason for the Shah's departure, ''to rest and receive medical treatment abroad,'' would hold good, and that Mohammed Reza would soon come back to rule his country, in accordance with the Constitution and in line with the will of people's representatives. But the monarch himself was well aware that his regime was done for, and that he was leaving never to return.

That was probably the Shah's most noble deed. He refused, as a matter of principle, to order his troops to drown the people's uprising in blood. He hoped that his departure would bring some degree of calm to the streets. He was not an angel by any stretch of the imagination. But he was a patriot of his country—and, in his own way, he loved his people. He never understood why the Iranians had refused to love him back.

Two weeks later, on February 1, another Boeing landed on the same runway of Mehrabad airport. From it emerged a bearded old man in a black turban—Ayatollah Ruhollah Khomeini. A new era in the history of Iran, the Middle East, and the whole world had begun.

The Iranian revolution, one of the key events of the twentieth century, continues to cast its dark shadow. The arrival in Tehran of an Islamic theocratic government with messianic ambitions and a determination to acquire weapons of mass destruction continues to inspire Islamic extremists the world over. Let us now try to understand the reasons behind the events of 1978–1979. Why did the Shah's government, which had seemed almost omnipotent, crumble in a matter of mere months, forcing Mohammad Reza Pahlavi to flee the country? How could the Iranian ruling elite, its intellectuals, army, and officialdom watch impassively as their own people were falling under the spell of Ayatollah Khomeini's slogans? And how could they then prove so helpless in the face of the people's uprising?

The Life and Times of the Shah, by Gholam Reza Afkhami, is one of the few available biographies of the last Iranian sovereign, and probably the most detailed and insightful one. There are several memoirs by members of the Shah's inner circle, relatives, diplomats, journalists, and spies. They include former Minister of the Court Asadollah Alam's *The Shah and I: The Confidential Diary of Iran's Royal Court, 1969–1977*, published posthumously, and *Faces in a Mirror: Memoires from Exile* by Mohammad Reza's twin sister, Princess Ashraf. The Shah's widow, Empress Farah, wrote her own memoirs devoted to her husband, *An Enduring Love*. The Shah himself dictated a book called *Answer to History* during the last year of his life. But none of these works is a detailed biography of the last Shah. Thirty years after his death, the time for such a book has finally come.

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Before the Iranian revolution the author was a Tehran University professor in charge of the national committee of the International Literacy Program. The committee was sponsored by the Shah himself. For a time Afkhami even served as a deputy interior minister. This is a book by a man who knew the system from the inside. It draws on the recollections of many people, including the Shah's family members, who gave the author their approval for the project, representatives of the Shah's inner circle, members of the opposition and foreign observers. As a former functionary in the Shah's government, Afkhami does not hide a certain liking for Reza Pahlavi—but he is no thoughtless apologist. He is a true historian who honestly tries to establish what really happened and, in his own words, to understand the Shah's motives.

Afkhami, who now lives in the United States and works for the Iranian Studies Foundation, writes this in the foreword: ''The Shah's life hovers on tragedy in that his personality, seemingly inexorably, moves to certain decisions that contain the germ of his undoing. On the other hand, disaster was never inherent in what he did, unless things got out of hand. And things did not seem to be getting out of hand until they actually did.'' In some ways, the book by Afkhami is a study of the past, present, and to some extent even the future of authoritarianism in general, rather than just the Shah's regime.

The life of Mohammed Reza Pahlavi was largely predetermined by his family upbringing and the special sensitivity to royal status that is the inevitable trait of every young dynasty. The Shah's father, Reza, was an officer of the so-called Cossack Brigade, the personal guard of the previous Qajar dynasty. From his lowly beginnings he ended up at the very top because he was smart, cunning, strong-willed, and ruthless to his enemies and rivals. By the mid-1920s Reza had become the de-facto dictator of Iran, while Shah Ahmad was on the throne but not in power. In 1925 the Iranian Majlis (parliament) deposed the Qajars.

A specially convened Constitutional Assembly offered the throne to Reza. He was crowned on December 15, 1925. The name he chose for his newly founded dynasty was Pahlavi, the name of the language spoken in Iran before the Arabs conquered the country in the seventh century. His, and then his son's, overarching aspiration was to restore to Iran its former imperial glory of the days of Darius and Xerxes.

The dynastic name Pahlavi also became the first symbolic innovation introduced by the new monarch: until then the Iranians had no surnames. Now everyone was ordered to come up with a surname and to wear European dress. Young people were sent in their thousands to study abroad. Women were granted civil rights and forced to take off their veils. The Jews were granted equal rights. All these changes were met with hostility by the Shia clergy, who had traditionally enjoyed huge influence among the Iranians and depended on that influence for their wealth. The conflict between the throne and Qom, the holy city of the Iranian Shia Muslims and the capital of the Iranian clergy, subsided at times but was never far from the surface. That conflict was at the very roots of the Iranian tragedy of the twentieth century.

Mohammed Reza was born in 1919 to a father who was a typical authoritarian nationalist-modernizer. There have been plenty such types over the past two or three centuries. He believed in technology and education as universal methods to bring Iran (''Land of Aryans,'' the name introduced by Shah Reza to replace the traditional Persia) to prosperity and glory. His idea of glory was similar to that of many politicians in modern Russia: he wanted to be ''feared and respected.'' People interested him only as instruments that would bring his grand plan to life.

Prince Mohammed Reza spent five years studying in a Swiss boarding school. He was softer and more flexible than his father, whom he loved and respected very much—but also, in all likelihood, feared a little. Reza wanted to mold his successor in his own likeness, and the young heir tried very hard to please his sire. His secretive nature and self-control, which he had demonstrated throughout his life, had much to do with his rather difficult formative years.

His adulthood began in 1941, when the Soviet Union and Great Britain occupied Iran and deposed Shah Reza, who was sent into exile in South Africa. *The Life and Times of the Shah* offers a lot of convincing evidence that the German influence on Iran was greatly exaggerated by the allies and Stalin, who simply needed Iran as a logistical base and a transport corridor. By declaring neutrality Shah Reza had denied Moscow and London any other way of using his country's territory. For Reza himself neutrality was primarily an attempt to sit it out and see who would come out on top in the global conflict.

Mohammed Reza, who acceded to the throne after his father's exile, remained a token figure until 1946. Stalin, Roosevelt, and Churchill paid him very little heed. During the Tehran conference in the autumn of 1943 Stalin summoned the Shah to the Soviet embassy for talks. The young monarch remembered the occasion very well. The first time he gained the attention of the foreign powers was when he refused to allow Moscow to grab the northwestern provinces of Iran, populated primarily by ethnic Azeris. The confrontation with pro-Soviet separatists in Western Azerbaijan became a kind of prelude to Stalin's blockade of Western Berlin in 1948–1949. It was one of the very first serious conflicts of the Cold War. The young Shah won that conflict, and that brought him some measure of self-confidence. But it was never absolute.

From his very first day on the throne, Shah Mohammed Reza was opposed by two forces. On the one side were the Soviet-backed left; on the other a large part of the Shia clergy, radically opposed to any modernization. The ayatollahs saw any change as a threat to their own power and influence. The Shah's court, the secret services and the ruling classes were preoccupied with suppressing the communist Tudeh Party, financed directly from Moscow, and hunting the Mujahedeen and Fedayeen extremists. The latter's ideology combined elements of Islam and certain left-wing slogans. Their weapon of choice was terror. Their victims included prime ministers and generals, members of the cabinet, and ordinary policemen. The Shah himself escaped several assassination attempts by the skin of his teeth. From time to time the left and the Islamists would strike tactical alliances. In 1951–1953 nationalist Prime Minister Mohammed Mossadegh nationalized the Anglo Iranian Oil Company (AIOC), which brought him great popularity, and then severed diplomatic ties with Britain. For a short period he became one of the most famous politicians in the world, and came close to knocking the throne from under the Shah. Mossadegh was a patriot of Iran and an idealistic democrat. Unfortunately, economics was not his forte. He also completely misunderstood the psychology of the Western leaders. For them, the conflict was not just about the tussle between the Iranian government and the AIOC. They viewed it through the prism of the Cold War. The British and the Americans had serious cause for concern. The Tudeh communists threw their weight behind Mossadegh, and insinuated themselves into positions of power and influence in the government, the army, and the police. These were exactly the methods used by the Soviet Union to install pro-Soviet puppet regimes in Central and Eastern Europe.

In August 1953 Mossadegh was ousted by the Iranian military with the help of the CIA and with the consent of the Shah. That was Mohammed Reza's first serious miscalculation. He left the country shortly before Mossadegh's ouster, and returned only when the generals had already done the deed, with the unruly prime minister under arrest. By staying in Tehran the Shah would have risked his own safety and borne the responsibility for the aftermath, including the possible failure of the rebellion against Mossadegh. But by spearheading the campaign against the cabinet, which was rapidly becoming unpopular, he could have secured his legitimacy in the eyes of ordinary Iranians. By sitting out the coup first in Baghdad, then in Rome, he minimized the security risks to himself—but for the rest of his life he faced the charge that he owed his throne to the Americans.

Just like the majority of historians, Afkhami believes that the summer of 1953 was the turning point in Mohammed Reza's life. *The Life and Times of the Shah* describes the Iranian monarch's mood when he returned to his country in August 1953: ''Never again would he forget his father's advice: any man worth asking to help in the arduous work of making a nation will seek your place if allowed.'' From then on, Mohammed Reza took over decision-making on all the key issues, turning the government, the Majlis, and the state bureaucracy into adjuncts to his own court. The system had worked well for a quarter of a century—but turned out to be useless during a crisis. In the eyes of the people, the Shah was responsible for everything that had gone wrong in the country.

Meanwhile, the Shah struck an alliance with the United States, which had replaced Britain as the world's Number One superpower, and proceeded to modernize the army and the secret services. They became the twin pillars of his throne and, as such, did not want for anything. He also brought to power Western-educated technocrats to sort out the economy. In 1963 he proclaimed, with a great fanfare, the beginning of the White Revolution of the Shah and the People, a campaign to modernize the country by improving the education system, pursuing rapid industrialization, making use of new technologies, and introducing land reform. The first 10 years of the White Revolution transformed Iran into a regional superpower. Living standards were improving in leaps and bounds, especially in the cities. Thousands of Iranian students were studying in Europe and America. New houses and factories were springing up all across Iran. In foreign policy the Shah

was successfully playing a delicate balancing act between his American allies and the Soviet Union. When oil prices shot up after the Arab–Israeli war in 1973, the Iranian oil industry started to earn the country $25 billion every year. In 1971 the Shah ordained grand pageantry to celebrate 2,500 years since the birth of the Persian monarchy and statehood. He even contemplated building nuclear power plants so as not to waste the country's oil and gas riches on electricity. Foreign observers thought Iran had entered a Golden Age that would last forever.

At first, the White Revolution seemed to have delivered a major blow to the Shah's opponents, the leftists and the Shia radicals. But then the situation started to shift in their favor. To begin with, most of the Iranians lived in rural areas, where the improvements brought by the Shah's program of modernization were much less spectacular than in the cities, and where the clerics held much greater sway. The pace of the reform also proved too much for some. Second, the economic boom ushered in an upsurge of corruption, which pervaded the upper echelons of power and even the Shah's family. Third, the government stifled any criticism of its policies. All the media outlets were controlled by the state. Parliament consisted of puppet political parties financed and controlled by the court. In 1975 the Shah disbanded them all in one fell swoop, creating instead the only officially allowed party, Rastakhiz (Resurgence). Membership was compulsory for all the adult population. The event coincided with a sharp drop in oil prices, which triggered a serious economic downturn. Living standards began to decline. Those Iranians who were hitherto apolitical and even those who had clearly benefited from the Shah's reforms were rapidly becoming anti-government. Thousands of students sent by the state to study abroad were returning to the country only to become opposition activists. Some espoused Western democratic ideals; others subscribed to leftist ideology. Many came back from the West appalled by its godlessness, materialism, and corruption, eager to suckle at the proverbial breast of pure Islamic tradition. All considered the Shah an enemy of Iran. Despite the best efforts of government censors, information regarding corruption at the very top was becoming public, fuelling further discontent. And all the while Ayatollah Ruhollah Khomeini, exiled from Iran in the 1960s, was waging a propaganda war against the Shah, accusing his court of selling the country out to the West and calling for a revolution. Tapes with recordings of Khomeini's sermons were being smuggled into Iran; tens of thousands of copies were then being passed from hand to hand among his followers.

Mohammed Reza, meanwhile, genuinely could not understand why his initiatives were being met with such increasing hostility. He had a great sense of responsibility to his country; he was a skilled diplomat and a very capable administrator. He came to work early, he went home late, he personally read all correspondence, and he received endless streams of government officials, ambassadors, and journalists. He travelled all across the country, opening new shipyards and dams, schools, and factories, as well as memorials built in honor of his father and of himself. He diligently attended the mosque—not just to keep up the proprieties, but because he was a genuine believer. He sometimes resorted to violence in order to win the struggle against the left and the Islamic extremists—but never willingly.

Mohammed Reza was very sensitive to what the Western media were saying about the situation in his country and about him personally. He was very involved in what would now be called reputation management. Shaping public opinion in the West was one of his primary concerns; wads of cash were spent on the services of Western PR companies. The Shah genuinely believed that a carefully thought-out propaganda campaign at home and abroad could turn the situation around for his dynasty. But try as he might to trumpet Iran's achievements, he could not reverse the growing tide of criticism against himself and his methods of ruling the country. International rights organizations and the Western media accused SAVAK, the Iranian secret service, of torturing political prisoners. They said that people in Iran were being denied political freedoms, and that corruption was rife among senior government and court officials. All those charges were undeniable—just as undeniable as the fact that Mohammed Reza's reforms had transformed Iran into one of the leading powers in the region.

In some sense, the Shah was simply unlucky. The last 15 years of his rule coincided with the resurgence of left-wing sentiment and anti-imperialist rhetoric all across the globe. They also coincided with the Soviet Union's last attempt to prevent the loss of superpower status by financing agents and installing puppet regimes in Asia and Africa.

Afkhami devotes a large chapter in his book to SAVAK and the Iranian opposition. The conclusion he draws must have been difficult for him as a monarchist, but inevitable for an honest historian: ''The Shah was frustrated because he could not defend torture and yet torture occurred, and

because he could not tie the hands of his men and yet expect them to fight against those who wished to destroy him or what he had built or what he might yet build.... In the end, he made a point of not asking.''

But because he did not ask, Mohammed Reza did not get the answers he desperately needed, just at the time when those answers could have saved his throne. ''Most of the political killings and assassination attempts in Iran...were the work of Islamic fundamentalists. SAVAK, however, was concerned mainly with the left, primarily because of the left's liaison with the West,'' Afkhami writes. In his opinion, the Shah was too preoccupied with his reputation in the West. Until the very end he could not believe that the Reform Generation he had nurtured would turn against him precisely because, in the eyes of that generation, his government had ceased to be an Iranian government for Iranians. The mullahs, the left radicals, and Moscow eventually succeeded in their strategy of portraying that government as a neocolonial regime selling the country out to the West. That was a lie, or at best a great exaggeration. But in politics lies are often more powerful than reality. What is worse, those lies sometimes substitute for reality. Mohammed Reza, the Iranian ruling class, and many well-meaning members of the anti-Shah opposition eventually realized their mistake, but it was too late to stop the juggernaut of history.

The United States also bears its share of the blame for the Iranian tragedy—for too long had it put its unquestioning trust in the Shah, before abandoning him at the critical moment. So does the Soviet Union, which had hoped at the height of the Cold War to turn Iran into another puppet state with the help of its agents. And so does the Iranian elite, which was too preoccupied with squabbling for money and privilege.

To the Shah himself goes the greatest share of the blame. The authoritarian system he had built failed to take into account that a large part of the traditionalist Iranian society was simply not ready for such rapid change. That system also isolated the moderate opposition and intellectuals who would have been prepared, in return for being legitimized, to help the Shah win greater support among those who had genuinely benefited from his reforms.

Mohammed Reza put too little stock in those who disagreed with him, and too much in his own power and popularity. Finally, his greatest mistake may have been his conviction that social and political modernization does not need to be underpinned by political reform. By leaving real politics to demagogues, he had planted the seed of his own destruction. His widow, Empress Farah, said as much to me during a meeting in Paris last year: ''We forgot about political reforms; we thought they could wait. We were severely mistaken.''

And that, I believe, is the main lesson we can draw from the life of the last Shah.

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FROZEN CONFLICTS AS SUBJECT OF EUROPEAN SECURITY DIALOGUE

To the Editor-in-Chief:

Sir,

Frozen conflicts are attracting increasingly more attention, primarily due to the so-called *Caucasus crisis* and the gradual militarization in the Armenian—Azerbaijani conflict zone. In that respect, Nadezhda Arbatova's article ''Frozen Conflicts and European Security'' published in issue No. 3 (92) of the *Security Index* journal (pp. 51–60) reflects the Russian academic community's attempts to comprehend this challenge and, which is most welcome, to do it from the point of view of pan-European security.

The author has expertly identified the levels of analysis necessary to consider the phenomenon of frozen conflicts: domestic, regional, and international. The article touches upon many of the rough edges of the reality of international politics, for instance the impossibility of classing all conflicts as interethnic ones; the dilemma of Russia's search for a policy towards the Newly Independent States in the post-imperial period; the lack of specifics in the regional-conflicts-related provisions of the European security treaty proposed by Dmitry Medvedev in November 2009. However, some of the aspects of the article give rise to objections, which I would like to voice as part of the academic discussion kicked off by the *Security Index* journal.

As is often the case, any discussion is conditioned by the terms that are being used. The Russian term for frozen conflicts was borrowed from English, where it emerged in the 1990s in the Western academic, public, and political discourse to describe conflicts born out of Moscow's neo-imperialist policy. It was believed that frozen conflicts stemmed not so much from internal controversies between the conflicting sides as from the actions of Russia, which was interested in manipulating conflicts in order to preserve its geopolitical influence in the former Soviet republics.

Using this term, we—as Friedrich Nietzsche wrote when developing his genealogical method—forget its true origins, its semantics. Hence the question: why cannot the Cyprus or the Korean conflicts be considered frozen? All the more so since the former, in terms of modern (geo)political reality, is a territorial, even a European, one.

Thus, initially, the authors of this term were guided more by the role of Russia than by the specifics of the conflicts themselves. That is why, speaking of frozen conflicts, we have to, first and foremost, discuss the notorious Russian factor. One would think, however, that the European security dialogue should revolve around *regional conflicts* in principle, then not only Russia would have to face some unpleasant questions.

In the section devoted to Russia's role in the emergence of conflict situations in the former Soviet Union, Arbatova contrasted the Yeltsin period to that of Putin, describing the former as a time of *neo-imperial idealism* and the latter as a time of *pragmatism* (with some minor reservations). Russia's foreign policy is therefore being assessed within the framework of the currently prevailing discourse, in which this contrast between chaos, lack of forethought on the one hand and pragmatism on the other appears obvious.

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However, one cannot fail to observe that both under Yeltsin and under Putin, Russia's foreign policy featured a significant constant, which had a great influence on the country's policy in conflicts in the former Soviet Union. This constant can be described as a persistent fear of being left out of the system of developing European/Euro-Atlantic security and, as a consequence of failure to integrate into this system, as a zigzag, inconsistent, and emotional quality of many foreign policy actions. Given a lukewarm interest that the majority of Western elites had in Russia's full-fledged integration, Yeltsin as well as Putin and Medvedev would vacillate between talk of strategic partnership together with signals towards readiness for true cooperation and attempts to assert oneself in relation to Europe, guided by the same old theses about zones of responsibility, zones of influence, and so on. Post-Soviet Russia's policy is still built on the shaky basis of a split identity, when it is not clear what aim the country's leadership is after: to have one's own geopolitical, or Russian, project or to seek to become part of Europe or the West.

In 1994–1995 Russia, not having been met with Western partners' readiness to spend resources on resolving conflicts at its borders or willingness to strengthen the OSCE as a pan-European institution, stated its claim to special rights as far as peacekeeping in the former Soviet Union was concerned and, for instance, synchronized, as was the case with the Dniester region, the withdrawal of its troops and weapons with the resolution of the conflict. In 2008 Moscow recognized Abkhazia and South Ossetia. Both these steps have a symmetry in relation to the West's actions and present an attempt at an indirect dialogue with the West on issues that are not openly discussed in a mutually acceptable format. Moreover, this attempt has always been aimed at inclusivity: even in the case of the Kosovo precedent, Russia made a point of not recognizing the Dniester region, as if to show that the devaluation of international norms should stop at Georgia and Serbia.

Thus, in the conflicts themselves, the Russian factor has always had a dual role to play. As U.S. experts Neil Macfarlane and Jeff Chinn aptly pointed out, Russia was clearly manipulating conflicts on the post-Soviet space and is continuing to do so; however, its absence from these conflicts would have had far sorrier consequences for the security of Europe as a whole.

Arbatova's assessment of the influence that Western geopolitical plans have on Russia's foreign policy is spot-on. However, Western strategy is as inconclusive as Russia's foreign policy priorities are.

Of course, until recently the West has been perceiving Russia in the context of the discourse on Eastern Europe as presented in Larry Wolff's book *Inventing Eastern Europe*. With its claim to an equal status inside Europe, Russia triggered in the European mind the image of a significant Other who plays a certain part in the establishment of the so-called European identity. As in the times of the Enlightenment, Marquis de Custine, and the Soviet Union, Russia continues to be Other but, as pointed out by Thomas Diez, of a temporal nature, in other words, demonstrates to Europe its past image.

In the 1990s a set of ideas about the neo-imperial nature of Moscow's policy began to form in the European mind, and frozen conflicts came in as a handy argument.

In the early 2000s, with its own security project being developed, the EU remembered frozen conflicts, trying to step up its participation in resolving them. Hence Brussels' offer in 2003 to replace Russian peacekeepers in the Dniester region, which to a certain extent resulted in the situation with the Kozak Memorandum. Back then the European Union saw itself as a key player in the system of European security and the Kozak Memorandum became additional proof of Russia's otherness. In 2008 the sight of Russian tanks near Tbilisi and of aircraft destroying Georgia's military infrastructure scared Europe more than Saakashvili's aggression.

At the time many European and U.S. pundits and politicians were talking of either deterring Moscow or of waiting for the moment when objective processes would force Russia to give up its ambitions in this or that region. In particular, Bundestag adviser for CDU/CSU Martin Grund, in his speeches on Dniester settlement, openly said that gradual Europeization would lead to a merger between Moldova and the Dniester region and Russia would not be able to resist it in any way. The same logic was extrapolated to other regions, in the longer term.

At the same time U.S. and European leaders' actions indicate that they are ready for a full-scale dialogue with Moscow on European security.

It is worth recalling that during the so-called Caucasus crisis, Europe, as a player more inclined towards a diplomatic solution to conflicts, was set against not only Russia but the United States too, which—as pointed out in a report by the special EU fact-finding commission into the South Ossetia war—had supplied arms to the Saakashvili regime and pursued its own geopolitical goals in the Black Sea region.

For its part, the special report by the U.S. commission on Russia set up on Barack Obama's initiative says that Russia has legitimate interests in Europe (which incorporates a large part of the former Soviet Union) and that the United States should not be pursuing a policy aimed to separate the Newly Independent States from Russia and create its own zone of influence next to Russian borders. It is the very same idea on which the joint letter by Angela Merkel and Nicolas Sarkozy, entitled ''Security, our joint mission'', on the situation regarding European security, is based. It is worth recalling the position that France and Germany took as regards the prospects of Ukraine and Georgia joining NATO.

To what extent does the future of frozen conflicts depend on discussions about the creation of a pan-European security system? It would appear that regional conflicts, particularly the Dniester and the Nagornyy Karabakh ones, can become a prompt for discussing joint initiatives, especially between Russia and the EU.

In that respect, the idea proposed after Dmitry Medvedev and Angela Merkel's meeting in 2010 to set up an EU–Russia commission for joint peacekeeping missions appears to be an interesting initiative. At the moment this idea remains unfulfilled, probably because good multilateral initiatives always have influential opponents from each side, including the notorious bureaucratic and mental inertia as well as parties lobbying for permanent conflict. The initiative for the creation of an EU–Russia commission for peacekeeping missions had more significance for discussions on frozen conflicts than even Dmitriy Medvedev's proposals regarding European security architecture because it envisaged the development of common security from joint responsibility within common security institutions. It is initiatives like these, together with the revival of the CFE regime, that can result in a breakthrough in the development of a common security architecture.

It is unlikely that in today's circumstances a comprehensive agreement between Russia and the West can be concluded, all the more so since both sides have already made their fundamental positions known: priority is given to hard security and to the internal boundary of security (common values). Rather, there should be pilot cooperation in significant regions or subject areas, which would create a foundation for mutual understanding between the parties. In other words, priority should be given to the gradual development of common foundations for ensuring European security based on practical cooperation, rather than to large-scale agreements. The latter are possible only in a situation of an acute crisis, like the Cold War for example, which resulted in the emergence of what we call the West. The final configuration of this system may turn out to be most unexpected, but not necessarily inefficient.

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