GCSP Geneva Centre for Security Policy
Centre de Politique de Sécurité, Genève
Genfer Zentrum für Sicherheitspolitik

GCSP Occasional Paper Series, No 47

THE G8 GLOBAL PARTNERSHIP ON WEAPONS OF MASS DESTRUCTION: WHAT NEXT?

Daniil Kobyakov and Vladimir Orlov[1]
June, 2005

Since the inception of the G8 Global Partnership (GP) program in Kananaskis on June 27 2002, the program has passed through different stages. Initially, it was just a loud political declaration, adopted by the leaders of the G8 following the attacks of 9/11. A Russian participant of the Kananaskis Summit later recalled with some surprise how smoothly and, to some extent, unexpectedly for the Russians involved the "$20 billion" pledge was shaped in that Canadian village. Interviewed on a major European GP-related conference a year after the Kananaskis summit, he was frank to exclaim: *"Arriving in Kananaskis, we [Russians] could hardly even expect that this whole giant wave now called Global Partnership would be born from our discussions of non-proliferation and counter-terrorism*"[2].

Three years after the start of the program it gave its first fruits. Quite obviously, impressive achievements have been outweighed by considerable challenges and obstacles to its implementation, and not all of those have been removed so far. The evolution of the international security environment during the same period of time demonstrates the importance of the goals of the program for the countries involved and for the world as a whole, and thus achieving its long-term success is of paramount importance. In this chapter we will try to assess the future prospects of the GP, identifying the progress made and main problems encountered, as well as some future potential directions where cooperation in the GP framework may lead.

The nature of the GP can be viewed from two different angles:

- on the one hand, it is a program with a strong traditional non-proliferation and disarmament component, as it represents a continuation of earlier cooperative threat reduction (CTR) efforts aimed at dismantling excess weapons of mass destruction (WMD) and WMD-related infrastructure left in Russia and other former Soviet States since the end of the Cold War;

- on the other, it should be considered as a measure to prevent terrorists from acquiring WMD. It seems likely that the latter aspect of the GP over time is gaining greater significance, as the attacks of 9/11 and subsequent terrorist acts, such as in Madrid in March 2004 and Beslan in September 2004, have demonstrated the willingness of modern terrorists to perform mass-casualty "all-out" attacks, even at the risk of producing widespread international condemnation and alienating their constituencies.

The threat of WMD terrorism is traditionally classified by the type of weapons which could be employed: chemical, biological, radiological and nuclear (CBRN). If we analyze the overall effectiveness of the GP in addressing each of the above-mentioned components of WMD terrorism, we can see that the effort was spread quite unevenly. The G8 Global partnership has made significant headway in addressing the nuclear aspect of the Cold War legacy. Much less progress has been made in dealing with chemical disarmament; however, this issue is high on the GP agenda. On the other hand, there are a number of issues such as biological security that received relatively little attention. If the GP is to succeed as a global anti-terrorism program, it has to elaborate effective measures to address all potential types of WMD-terrorism threats. Therefore, in our view, future cooperation should be based on a balanced approach, which will incorporate "traditional" programs in the nuclear sphere with new added areas of cooperation such as biosecurity and radioactive sources.

HOW SUCCESSFUL HAS THE GP BEEN SO FAR?

Cooperative threat reduction activities, since their inception in the early 1990s, have achieved a lot in

addressing the proliferation threat associated with the legacy of the Cold War. The successes of the US-Russian Cooperative Threat Reduction Program (CTR) alone, the biggest of such activities, looked impressive by the end of 2004.

- 17 ICBM mobile missile launchers;
- 142 bombers;
- 761 nuclear air-to-surface missiles;
- 420 submarine missile launchers;
- 543 submarine launched missiles;
- 28 strategic nuclear submarines; and
- 194 nuclear test tunnels.[3]

In addition:

- 260 tons of fissile material have received either comprehensive or rapid security upgrades;
- Security upgrades have been made at some 60 nuclear warhead storage sites;
- 208 metric tons of Highly Enriched Uranium (HEU) have been blended down to Low Enriched Uranium (LEU);
- 35 percent of Russia's chemical weapons have received security upgrades;
- Joint US-Russian research is being conducted at 49 former biological weapons (BW) facilities, and security improvements are underway at 4 BW sites;
- The International Science and Technology Centers (ISTC), of which the United States is the leading sponsor, have engaged 58,000 former weapons scientists in peaceful work;
- The International Proliferation Prevention Program (IPPP) has funded 750 projects involving 14,000 former weapons scientists and created some 580 new peaceful high-tech jobs;
- Ukraine, Belarus, and Kazakhstan are nuclear weapons free as a result of cooperative efforts under the CTR program.[4]

In addition to the United States, other countries have been providing assistance. For example, the European Union (EU), Germany, and a number of other European nations were instrumental in providing assistance for construction of the first Russian chemical weapons (CW) destruction facility in Gorny, launched in 2002.

Despite the visible achievements in absolute terms, the overall success of the GP can be measured only

Over twelve years CTR activities have led to elimination of:

- 6,564 nuclear warheads;
- 568 ICBMs;
- 477 ICBM silos;

if we can answer the question **whether the pace of cooperation is corresponding to the urgency of the threat**.

Unfortunately, the answer to this question seems to be a negative one so far. The GP program was created as a response of the international community to the challenge of catastrophic terrorism, which became so evident following the tragic attacks of September 11, 2001. The idea behind the creation of such a program was to concentrate the available resources and to dramatically accelerate the ongoing projects in the area of cooperative threat reduction. However, to date none of that has happened. The GP program more closely represents the inertia of pre-9/11 cooperation rather than a completely new, more dynamic effort. The boost that 9/11 gave to international cooperation in the area of non-proliferation, which led to the creation of the GP, seemed to wane two years after the inception of the program in Kananaskis.

Already at the Sea Island Summit in June 2004, as one of us witnessed, the GP was relegated to the bottom of the agenda, receiving much less publicity and media attention than it really deserved and in comparison with other "hot" topics discussed at the summit, such as the security situation in the Middle East. According to a Russian official who participated in negotiations, a day before the Sea Island document on the GP should have been adopted there was still no agreement on the text, and it seemed that the leaders negotiated it at the last moment[5].

As a result, the documents adopted at Sea Island represented no breakthrough if compared to the previous Evian Summit documents, and they largely failed to meet expectations. For instance, the G8 countries failed to increase their financial pledges for GP projects by making the $20 billion figure a floor but not a ceiling, despite all the political influence of the United States, which was supporting such a measure. Other aspects of the documents adopted at Sea Island demonstrate that the **G8 leaders did not undertake a critical approach to assessing the progress** of the GP, preferring instead compromise formulas that avoided criticism of the program's shortfalls and, as

a consequence, lacked indications for how to speed up the way forward.

Chart 1. Cooperative Threat Reduction Milestones

1991, 27 November: Adoption of the Soviet Nuclear Threat Reduction Act by the United States Senate. Beginning of the Nunn-Lugar CTR program.
1992, 17 June: Signing of Agreement between the Russian Federation and the United States of America concerning the safe and secure transportation, storage and destruction of weapons and prevention of weapons proliferation (the Umbrella agreement), which became the basis for US-Russia CTR activities.
1996, 19-20 April: The Nuclear Safety and Security Summit in Moscow adopts a declaration containing several proposals on nuclear security, enhancing the physical protection and disposal of nuclear materials, and on the program to combat illicit trafficking in nuclear material.
1999, 15-16 June: After the expiry of the initial seven-year term, the Agreement between the Russian Federation and the United States of America concerning the safe and secure transportation, storage and destruction of weapons and prevention of weapons proliferation is extended. A protocol to the agreement is signed.
2001, 16 June: A Summit between Russian President Vladimir Putin and US President George W. Bush in Ljubljana (Slovenia) and intensification of US-Russian cooperation in the area of international security.
2001, 11 September Terrorist attacks in the United States demonstrate the need to prevent acquisition of WMD by terrorists.
2002, 27 June: Establishment of the G8 Global Partnership program at the G8 Summit in Kananaskis (Canada).
2003, 21 May: Representatives of 10 European countries, the United States, the European Union (EU), Euratom and the European Bank for Reconstruction and Development (EBRD) sign in Stockholm (Sweden) the Agreement on the Multilateral Nuclear Environmental Program in the Russian Federation (MNEPR Agreement).
2003, 1-3 June: G8 Summit in Evian (France). First enlargement of the number of GP donor countries. New GP members included Finland, the Netherlands, Norway, Poland, Sweden and Switzerland.
2004, 20-23 April: An International Conference on the Global Partnership takes place in Moscow. In this major gathering of officials from GP participating states and experts, an assessment of the development of the GP is made and recommendations for the future are discussed.
2004, 8-10 June: G8 Summit at Sea Island. Adoption of the Senior Group Report on the Global Partnership and the G8 Action Plan against WMD Proliferation. New donor countries – Australia, Belgium, the Czech Republic, Denmark, Ireland, New Zealand, and South Korea are accepted in the GP.
2005, July: An official expansion of the number of recipient countries at the G8 summit in Scotland is expected.
2006: A G8 Summit is scheduled to take place in Russia. The GP will be on the agenda. However, whether it will be on the priority list for the G8 leaders remains to be seen.
2012: Expiration of the term of the Global Partnership, as established in Kananaskis.

PRIORITIES… WHOSE PRIORITIES?

When analyzing the potential directions of development of the GP program one should start with looking at the program priorities – both those already declared three years ago and emerging ones.

Russia has emphasized repeatedly that it has two priorities in the GP – the dismantlement of decommissioned nuclear submarines and chemical weapons (CW) destruction. Russian President Vladimir Putin, speaking at a press conference after the G8 Summit at Evian, France (June 1-3, 2003), underscored a need for concrete practical steps in implementing the commitments of Kananaskis, "*first of all by agreeing on projects in priority areas of the Global Partnership such as chemical weapons destruction and dismantlement of old and decommissioned nuclear submarines.*"[6]

Any attempts by other donor states to concentrate on other areas were viewed by Russian officials as counter-productive and decreasing the effectiveness of the program. For instance, at the 2003 Second Moscow Non-proliferation Conference, Ambassador-at-Large Anatoly Antonov, who was representing Russia in the Global Partnership Senior Officials Group, stressed that "*too little has been accomplished in priority areas. At this point in time we must continue to concentrate on them. Otherwise we will diffuse assets, negatively affecting the entire GP process.*"

Antonov added however that the revision of priorities and expansion of areas of cooperation could be discussed in the future.
Thus, it could be argued that the declared priorities of Russia within the program have to do more with disarmament issues and less with non-proliferation and combating terrorism. It is symptomatic that in his 2003 annual address to the Russian Federal Assembly, Russian President Vladimir Putin, while mentioning the GP program as an important example of international cooperation, stated that WMD dismantlement under this program "*will help us to improve the environmental situation in some of the regions of Russia*"[7], but omitted any reference to the utility of the program from the non-proliferation or counter-terrorism point of view.

Other GP participants have their own priorities and agendas. The priorities of the largest donor country, the United States, clearly are dealing with strategic offensive arms elimination, non-proliferation, and preventing the access of terrorists to WMD and related materials and technologies. The US leadership has been receptive to some priorities of Russia and other countries, as long as they do not contradict the US objectives. For example, the United States pledged to provide a significant portion of assistance for CW destruction in Russia. According to the then US Under-Secretary of State for Arms Control and International Security, John Bolton, "*Russia is entitled to have its priorities too. From the perspective of Russia meeting its obligations on the Chemical Weapons Convention (CWC), it's perfectly logical that chemical weapons destruction would be a priority. I might say it's also a US priority to keep those agents out of the hands of terrorists, so I don't see any inconsistencies there. As with any cooperative program like this, you work through what the priorities are. For the French, for example, plutonium disposition remains a very high priority and it was made very clear at Kananaskis that even though it didn't fit on the Russian list, that's what the French were going to pursue…. I think Japan has seen submarine dismantlement as a high priority for its own reasons, and that's understandable, too*".[8]

The priorities of the European donor countries generally have more in common with the Russian priorities. First of all, due to geographic proximity, some of the European states share the environmental concerns with the Russian side. That is particularly true for the Nordic countries, such as Norway, which has long been one of the key players in providing assistance to Russia for dismantlement of multi-purpose submarines and environmental rehabilitation of naval bases of the Russian Northern Fleet. The Europeans are also showing more willingness to assist Russia in chemical disarmament.
Other smaller donor countries chose to focus only on one area of cooperation. For example, Switzerland's assistance is limited to the area of CW destruction. According to Swiss law, the government is prohibited from spending GP funds for other purposes, thus Switzerland is reluctant to explore other potential areas of cooperation.[9] Swiss policy makers emphasize that "*Switzerland focuses its attention on chemical disarmament because, not being a superpower, Switzerland wants to concentrate its effort and achieve maximum effectiveness*".[10]

Small donor countries such as Poland and the Czech Republic provide assistance for individual relatively small-scale projects. For example the Czech Republic has allocated £85, 000 (approximately $150,000) for the procurement of electricity supply equipment for a sub-station serving the CW destruction facility being constructed at Shchuchye. The Czech assistance is channelled through the United Kingdom Ministry of Defence program under the bilateral UK-Russian Agreement.[11] In the case of Poland, the assistance funds (approximately $100,000) are used for technology development and construction of a pilot-scale facility for elimination of the CW agent lewisite. Such small-scale projects are pursued by the donor countries mainly with the view of raising their international profile and achieving public relations effect, or with a pragmatic goal of joint technology development or deriving profit from the WMD dismantlement process (such as having a share in sales of raw materials being produced in the process of CW elimination, for example arsenic). As such, these small-scale projects only indirectly serve the broad non-proliferation goals of the program, yet still they are very important.

Expanding project activities and exploring new areas of cooperation were envisaged as key GP tasks in the documents adopted at Evian in 2003. Some of the concrete proposals on which tasks should be prioritized in the process of GP implementation came from the non-governmental sector. On the eve of the 2004 G8 Sea Island Summit, Strengthening the Global Partnership Project (SGP), an international coalition of 21 research institutes in 16 European, Asian, and North American countries, came up with a list of recommendations as top priorities for GP work which included the following actions:

- Accelerate Efforts to Consolidate and Secure Weapons Usable Nuclear Material;
- Expedite a Global "Clean-out" of HEU at Research Facilities Worldwide;
- Accelerate Weapons-Grade Plutonium Disposition;
- Expand Efforts to Employ Former Weapons Personnel;
- Increase Transparency for and Destruction of Tactical Nuclear Weapons (TNW);
- Drastically Increase Funding for Chemical Weapons Demilitarization;
- Intensify Efforts for Bio-Security.[12]

Some of these tasks, such as CW destruction, represent already acknowledged priorities of the GP, while others represent new areas of cooperation. In our view, some points, such as Tactical Nuclear Weapons, were included on the list prematurely since they belong to the domain of arms control rather than non-proliferation, and are not yet ripe for negotiation. Still, many of them are quite balanced and reasonable. Using this list as a reference point, we will try below to assess some of the future priorities of the GP, both those which stem from already existing areas of cooperation within this program and those that could arise in the future after new areas of cooperation are opened.

CONCENTRATING ON "TRADITIONAL" AREAS OF COOPERATION

Chemical Weapons Destruction

According the deputy head of the Russian Federal Agency for Industry, Victor Kholstov, who is in charge of implementation of the CW destruction program, as of January 17, 2005, "*about 800 tons of category one warfare agent*" have been destroyed in Russia.[13] This represents only 2% of the overall stockpile of 40,000 tons of chemical weapons. It is already obvious that Russia is lagging behind the existing schedule of CW destruction. According to its commitments under the CWC, Russia has to destroy 20% of its stockpiles (or 8,000 tons) by April 29, 2007 and all of them by April 29, 2012.

As of the beginning of 2005, the only functioning chemical weapons destruction facility, located in Gorny, could not ensure the implementation of this plan. The construction of additional facilities so far is going behind schedule. For instance, the deadline for the completion of the construction of a CW elimination plant in Shchuchye was shifted from 2007 to 2012. The Russian daily *Vremya Novostey* noted that given such speed, Russia will be able to eliminate its CW stockpile only in 40 years.[14] Russia is still hoping to meet the intermediary deadline of destroying 20% of its stockpile in 2007 by quickly putting into operation two plants to destroy CW, located in Kambarka (having 6,630 tons of CW agent lewisite) and Maradykovsky (having 6,960 tons of yperite, lewisite, and organophosphorous agents), by the end of 2005. Meeting the 2012 deadline will require putting into operation an additional four facilities by 2008, which is impossible unless the existing pace of implementation of the CW destruction program is accelerated.[15]

One of the key problems with implementation of the CW destruction program is low financing. Russia needs $3-4 billion or up to $600 million annually to implement the program. The Russian budget for this program was 5.3 billion rubles in FY 2004 (or approximately $189 million); for FY 2005 it was doubled to 11.16 billion rubles (or approximately $380 million).[16] Still this money is not enough to finance the program. When Russia signed and ratified the CWC, it declared that it needed financial assistance from foreign donors in order to fulfil its commitments. World leading countries, including the United States, promised to share the burden 50-50. But, according to Viktor Kholstov, the foreign assistance received by Russia by the end of 2004 accounts for a mere 7% of the cost of the chemical weapons destruction program, or $217 million.[17] Expectations for foreign funding in 2005, which are reflected in the FY2005 Russian budget, stand at 2.3 billion rubles (approximately $82 million).[18]

Low financing from the foreign donors is seen as the main stumbling block for the implementation of the program by the Russian side. For instance, on October 13, 2004, the Upper House of the Russian parliament (the Federation House) sent a parliamentary inquiry to the Russian Prime Minister, which noted that Russia could not fulfil its obligations under the CWC. "*Proof of this is the extremely low realization of statements by G8 leaders about the necessity to provide international financial aid to Russia. This aid is provided extremely slowly, in reduced amounts and not in the time set*," the inquiry stated.[19] According to the inquiry, Russia received only 3% of the promised international financial assistance in 2004.

The representatives of the foreign donor countries, on the other hand, cite problems on the Russian side, which impedes further cooperation. For example, at the international conference dedicated to the G8 Global Partnership which took place in Moscow in April 2004, some representatives of the donor states mentioned bureaucratic difficulties and

the lack of a realistic "roadmap" or action plan on the Russian side in the area of CW disarmament as key problems.[20] Other Western experts mention additional problems related to implementation of cooperative CW destruction projects. According to Paul Walker, a representative of the Washington-based non-governmental organization Global Green, many of the disagreements revolve around the choice of contractors who are awarded construction projects. He said that the United States had frozen contracting for construction of a facility at Shchuchye for up to five months after Russia insisted on its own candidate to build the site heating plant. Ultimately the Russian side backed down. "*The broken record we've heard for over a year now is the complaint that the money is going to Western contractors*", Walker said. "*What the Russians refuse to admit – and it's becoming a bit of a diplomatic roadblock – is that they wouldn't be where they are without the hundreds of millions of dollars that the West has committed.*" [21]

However this statement is only partially true. The majority of Western assistance that has already been provided and put into working projects, such as Gorny, came from the countries which tried to avoid political and commercial conditionality in providing assistance, for example Germany. Indeed, the pragmatic approach pursued by Germany has been praised by the Russian side, in contrast to the less cooperative approach of the United States.[22] Some donor countries such as the Netherlands leave it up to the Russian side to select the contractors and equipment for implementation of the projects, which helps to avoid many bureaucratic delays.[23]

Nuclear Submarine Dismantlement

Developments in another key priority area of the Global Partnership – submarine dismantlement – are slightly more encouraging. Despite the fact that foreign financial assistance for submarine dismantlement was insufficient during the first two years of functioning of the GP program (see Table 1 below), by the end of 2004 many projects in this area entered the stage of concrete implementation. Russia and the donor countries managed to create a sufficient legal base for implementing projects after signing the Multilateral Nuclear Environmental Program (MNEPR) agreement and a number of bilateral agreements. The Russian side had developed by December 2003 a master plan for submarine dismantlement, which was met very favourably by the donor states since it included many aspects that they were calling for, such as tighter audit, transparency and accountability.

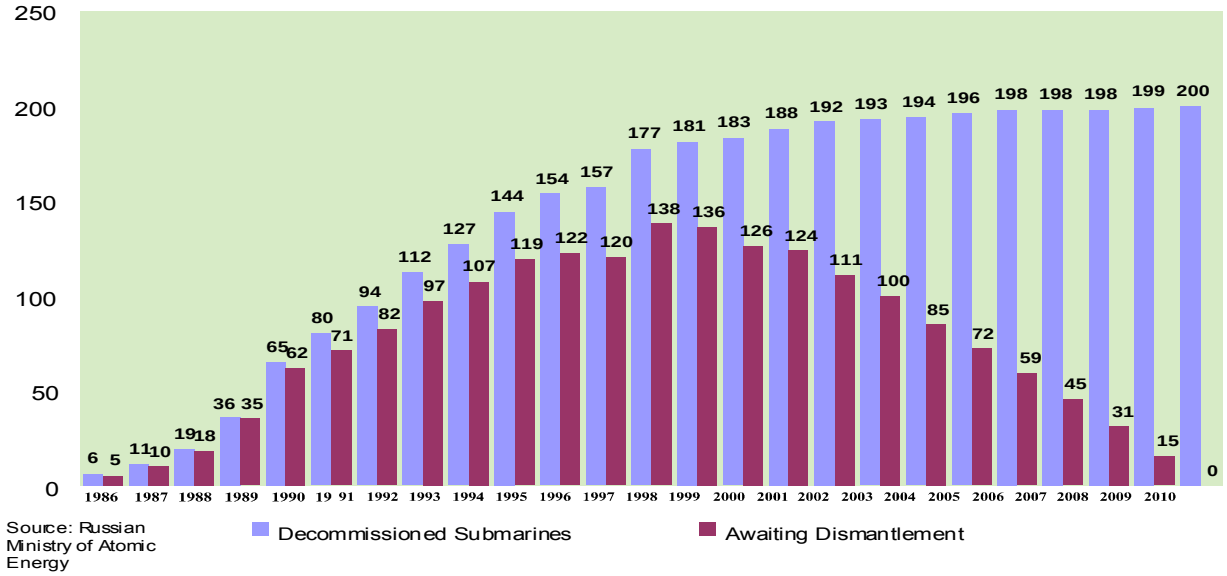
Table 1. Global Partnership countries' contribution to submarine dismantlement (June 2002 – April 2004)

Country	Contracts concluded (Million USD)	Money received (Million USD)
USA	**23.8**	**28.1**
UK	**23.2**	**3.2**
Germany	**30.7**	**4.1**
Japan	**6.7**	**2.1**
Norway	**17.5**	**12.0**
Sweden	**0.5**	**0.2**
TOTAL	**102.4**	**49.7**

Source: Guide to the Global Partnership, PIR Center, 2005

According to the Deputy Director of Rosatom's Department of Decommissioning of Nuclear and Radioactively Dangerous Facilities, Viktor Akhunov, in order to dismantle all the submarines as planned by 2010, Russia will have to dismantle some 15 to 18 submarines a year[24] (see Figure 1 below for current Rosatom's projections of submarine dismantlement process).

Chart 2. Submarine dismantlement in USSR/Russia, 1986 – 2010



Indeed, this rate has already been achieved. In 2004, Russia dismantled 18 submarines, five of which were funded by foreign donors.[25] In 2005, Russia's Federal Agency for Atomic Energy (Rosatom) plans to dismantle 15 nuclear submarines using the Russian budget funds. It is expected that foreign donors will provide an additional 3 billion rubles (approximately $108 million) for this purpose in 2005. According to a Rosatom source, Norway, the UK, and Italy will provide financial assistance for the dismantlement of 3 submarines (one for each country), Canada for the dismantlement of 4 submarines, and Japan for the dismantlement of 5 submarines. [26]

Despite the fact that all the submarines scheduled for dismantlement are likely to be eliminated as planned, that represents only a fraction of the problem. In addition to submarines, 41 service ships with radioactive material onboard also need dismantlement. Four naval bases containing radioactive materials need rehabilitation, and the issue of spent fuel needs to be addressed as well. Also the current international effort in the area of submarine dismantlement is mainly focusing on Northwest Russia, whereas the problem of the Russian Pacific Fleet submarines receives less attention. Despite the efforts of Rosatom, there is still no infrastructure for solving all the problems arising in the process of submarine dismantlement – for example there are still no on-shore storage bases for reactor compartments or infrastructure for handling and disposal of solid radioactive waste.[27]

Security of Nuclear Materials

Among the "traditional" areas of cooperation, the security/safety of nuclear materials is the one that arguably needs more attention by Global Partnership members. According to a report prepared for Nuclear Threat Initiative (NTI) by Harvard University's Project on Managing the Atom in May 2004, within the former Soviet Union, as of the end of fiscal year (FY) 2003, some 22% of some 600 tons of nuclear material outside of nuclear weapons, which is potentially vulnerable, had

"comprehensive" (meeting US standards) security and accounting upgrades.[28] An additional 21% of the material had initial "rapid" upgrades installed (such as bricking the windows of a facility with nuclear materials and building a fence around it). The effort was initially focusing on providing upgrades to sites that are more vulnerable and contain smaller quantities of nuclear material, thus the fraction of sites having received comprehensive upgrades is relatively higher compared to that of total amounts of material with upgrades and constitutes 70%.

More progress was achieved in providing security for material which is located outside the Rosatom defence complex, such as naval fuel. Since Rosatom's defence complex accounts for roughly 500 tons of the estimated 600 tons of the potentially vulnerable nuclear material outside of nuclear weapons, progress in providing upgrades for Rosatom's material will measure the overall success of the program. As of the end of FY 2003 only 11% of Rosatom's material had comprehensive security and accounting upgrades, with an additional 30% of material receiving rapid upgrades.[29]

The challenge of the task of providing security upgrades increased after the attacks of 9/11. After that, the target-date for the completion of all the upgrades was shifted from 2011 to 2008. However, meeting this tighter deadline requires big increases in financing, which the United States failed to provide. Indeed, over two years after 9/11, less Russian material received comprehensive upgrades than in the two fiscal years prior to that date (7% and 9% respectively).

The pace of providing rapid upgrades also fell by half in the two years after the attacks compared to the two previous years. According to experts, that occurred primarily because, after the completion of "easy" tasks, the program encountered the need to provide security to the most sensitive sites with the largest quantities of nuclear material. Because the problem of access to these sites could not be resolved, much of the supplemental funding appropriated after 9/11 for fissile material security was spent on other tasks than installing upgrades. Meeting the deadline would require a dramatic acceleration of the pace of the program from the rate of 4-5% of material receiving upgrades annually to over 20% per year.[30] That would require not only increased financing of the program but also high-level attention and political will of US and Russian leadership to overcome existing obstacles, most notably the access issue – one that is discussed below.

At the February 24, 2005 Summit of the US and Russian Presidents in Bratislava, Slovakia, the two leaders committed to "*enhance cooperation to counter one of the gravest threats the two countries face, nuclear terrorism*".[31] The joint document adopted by the two presidents at the summit calls for sharing "*best practices for the sake of improving security at nuclear facilities bilaterally and with other nations with advanced nuclear programs*".

Furthermore, while acknowledging that the security of US and Russian nuclear facilities meets current requirements, the two presidents stressed that these requirements must be constantly enhanced to counter evolving terrorist threats. To this end, the presidents agreed to develop a plan of work through and beyond 2008 for cooperation on security upgrades of nuclear facilities. The two presidents established a US-Russian Senior Interagency Group (SIG) for cooperation on nuclear security (including the disposition of fissile material no longer needed for defence purposes) chaired by Secretary of Energy Bodman and Rosatom Director Alexander Rumyantsev. The SIG will report on implementation of the two countries' cooperation in this sphere, taking into account key financial, legal, technical, and other considerations.[32]

Warhead Security

The need to ensure the security/safety of Russian nuclear warheads was the first problem faced by CTR programs in the early 1990s. At that time, Russia had just completed the withdrawal of TNW from most of the former Soviet Union Republics and still was in the process of withdrawing its TNW from the territories of Ukraine and Kazakhstan. This was also the time of the removal of Russia's strategic nuclear weapons from Belarus, Kazakhstan and Ukraine.

According to Colonel-General Yevgeny Maslin, who was heading the 12th Directorate of the Russian Ministry of Defence (12th GUMO), responsible for warhead security, "*we had to think not just about secure transportation of warheads but about raising the level of security. We were unprepared for such a turn of events. The process of arms reduction accelerated, first of all, in the framework of the START I Treaty. Could we fulfil in time our arms control obligations without American assistance? This was not likely. New threats appeared, such as unsanctioned access of terrorist groups to nuclear weapons in storage or in the process of*

transportation. We particularly felt the seriousness of this threat in 1991-1992 when the conflict in Chechnya started to escalate."[33]

The bulk of assistance came through the CTR program sponsored by the United States. The United States procured 150 so-called "supercontainers" for the transportation of warheads, equipment for refurbishing 117 railway carriages for warhead transportation, and additional equipment for rapid deployment in case of accidents or attacks on trains transporting warheads. In 1999 an additional agreement with the United States was signed with the goals of providing servicing to equipment provided earlier and gradually replacing 115 earlier procured carriages with newer ones. According to the Deputy Head of the 12th GUMO, Mikhail Starodubtsev, "*existing positive experience and concrete results achieved* [in international cooperation – *Authors*] *allowed the incorporation of a lot of new equipment in the Russian system of handling nuclear weapons: emergency rescue equipment, supercontainers, dosimeters, polygraphs, equipment for conducting drug and alcohol testing, computer equipment, etc.*"[34]

As of 2004 Russia, according to unclassified US estimates, was believed to possess approximately 18,000 warheads at some 150-210 sites, of which 50-70 are national stockpile sites, 60-80 are deployed, service-level storage sites, and 40-60 are temporary sites.[35] In the US, two government agencies, the Department of Defence (DOD) and the Department of Energy (DOE), were engaged in securing Russian warhead sites. It is necessary to note that neither agency has exact figures for the total number of sites they plan to assist. Furthermore, there is no plan to upgrade security for all the warhead sites in Russia because in January 2003 DOD's and DOE's programs to help Russia secure its nuclear warheads were brought under common policy guidance, which generally prohibited assistance to operational sites due to concerns that US assistance might enhance Russia's military capability.

According to the US General Accounting Office (GAO) report issued in March of 2003, the DOD was planning to improve security at all of Russia's storage sites and to complete this work by 2010. The report noted that the DOD has made limited progress and is unlikely to complete its work as planned because the Russian government has not provided access to sites or sufficient funding to support the program.[36] As of 2004 the DOE was planning to perform upgrades on 39 Navy sites and 25 Strategic Rocket Forces (SRF) sites. The DOE plans to have the Navy sites completed by 2006 and SRF sites completed in 2008.[37]

Despite the fact that in 2001-2003 a number of positive developments in this area occurred, most notably the improvement of access of US personnel to Russian facilities, still a number of issues raise concerns about warhead security in Russia. They include:

- A lack of transparency in numbers of warhead sites, including those in need of security upgrades. On the other hand, this does not mean that those sites which have not received internationally-funded security upgrades are insecure. For example, General Eugene Habiger, former commander of the US Strategic Command, told reporters: "*I don't have any serious concerns about the security of Russian nuclear weapons in military custody*", following his trip to five Russian strategic nuclear weapon facilities in early 1998.[38]
- An increased threat of terrorist attacks. For instance, Colonel-General Igor Valynkin, head of the 12th Main Directorate of the Russian Ministry of Defence, on January 30, 2003 told journalists that "*intelligence data indicates that Chechen terrorists intend to seize an important military installation or nuclear warhead, in order to threaten not just our country, but the whole world.*"[39]
- A need for long-term sustainability of the security systems. The maintenance of the equipment installed, according to expert estimates, will cost hundreds of millions of dollars a year. [40]

Apart from the United States, other countries including the United Kingdom, France, Italy, Norway, and Germany have been providing assistance for nuclear warhead security on a smaller scale. Following the agreement signed by the German Foreign Ministry and the Russian Ministry of Defence on October 6, 2003, Germany is the second-leading country after the United States in providing physical protection upgrades to 12th GUMO sites. According to the provisional evaluation made by Colonel-General (Ret.) Yevgeny Maslin, cooperation with Germany is developing "very successfully".[41] German equipment is compatible with Russian requirements and unlike with the US, the issue of access is not hampering bilateral Russian-German cooperation in this area.

Reductions of Stockpile of Weapons-Usable Material

Reducing the stockpiles of nuclear material (HEU and weapons-grade plutonium) is another important goal. Under the existing US-Russian HEU-LEU Agreement, 231.5 metric tons of HEU were blended down to reactor fuel by the end of 2004[42] with additional smaller amounts destroyed as part of other programs such as the US DOE's Material Protection Control & Accounting (MPC&A) program. Overall, that constitutes approximately 19% of the 1,200-ton stockpile which Russia was believed to possess in 1993 when the HEU-LEU agreement was signed. The current rate of implementation of the HEU-LEU deal provides for destruction of some 30 tons of HEU annually or 2% of the original stockpile. If the current pace of the program is projected into the future, by the scheduled end of the program in 2013, 500 tons of HEU or 40% of the stockpile will have been blended down.[43]

Recently some experts came up with proposals to speed up the process of blending down HEU through the acceleration of existing programs, adding new ones and expanding the scope of the program beyond the initially agreed 500 tons of HEU. One such proposal is contained in a report published in April 2004 by the Swedish Nuclear Power Inspectorate (SKI).[44] The report aims at establishing options for European contributions in the field of HEU elimination which would supplement the existing US-Russian HEU-LEU arrangement. According to this report, Russia could consider additional stocks of HEU to be in excess of defence purposes "*if provided with financial incentive from the European side – possibly in the form of creating civilian job opportunities in the nuclear sector*."[45] The goal of the European parties according to the report should be to buy "as much HEU as possible – by down-blending it". The resulting LEU should remain under Russian ownership and it could be used by Russia in commercial purposes (including on the world market).

Plutonium Disposition

The reduction of the Russian plutonium stockpile represents another high-potential area of cooperation. Plutonium disposition was addressed in the G8 framework even before the Kananaskis summit, and the majority of G8 states consider this problem a high priority. However, due to a number of factors, no real progress in this area has happened. In recent years the prospects for practical implementation of this program even worsened. The key remaining problems are: insufficient funding for the program, existing disputes between the United States and Russia on liability protection, as well as a number of unresolved technical and verification issues.

Despite being an important issue for achieving the goals of the GP, existing pledges for the plutonium disposition program are far below the $2 billion needed for disposition of 34 tons of Russian plutonium covered by the 2000 US-Russian Plutonium Disposition Agreement, constituting only about a half of that sum. Lack of clarity in this area has prevented not only the implementation of any specific projects, but even a target-date of the completion of the program is not known.

Liability is the most important issue hampering cooperation. Since the 2000 Plutonium Disposition Agreement had no provisions regarding this issue, liability protection was provided by the 1998 US-Russian Technical Cooperation Agreement, which expired in 2003, and no mutually acceptable compromise on liability was found. That effectively blocked any new activities aimed at implementing the plutonium disposition plan, the key elements of which envisage the construction of MOX-fuel plants in the United States and Russia. The United States was also seeking a multilateral agreement on funding of the Russian plutonium disposition program that would include liability provisions, but no progress in this area has been reported.

The overall outlook for the program remains uncertain. In 2004 the construction of US and Russian plutonium fuel fabrication facilities was pushed back by a year. It is likely that in 2005 it could be further postponed. Apart from the liability problem, the licensing and technical arrangements for a MOX-fuel fabrication program on the Russian side are only at a preliminary stage, and since the plutonium disposition must be carried out in Russia and in the United States in parallel, this might slow down its implementation on the American side as well.

If all the issues are resolved and financing for the program is secured, construction of MOX-fuel facilities could be completed in 3-4 years. Subsequently, according to existing plans, two tons of Russian plutonium should be destroyed each year, with later attempt to increase that rate to four tons per year. If the projected start of this process occurs in 2010, the disposition of material covered by the 2000 Plutonium Disposition Agreement could be achieved by 2020-2021 (given that the acceleration of the disposition rate to four tons annually is achieved quickly; if that condition is not met, plutonium disposition would not be completed before 2029). [46]

The implementation of the 2000 Plutonium Disposition Agreement will lead to the destruction of only about one-quarter of Russia's stockpile of weapons-usable plutonium. According to experts, if the production of plutonium in Russia were stopped, and all the 170 tons of plutonium in Russia's stockpile except the amount needed to sustain a force of 10,000 warheads were included in the program at a rate of four tons per year, the completion of the plutonium disposition program would be postponed until 2040.[47]

Another aspect of the plutonium disposition program is the need to shut down Russian nuclear reactors built specifically to produce plutonium for nuclear weapons. The reactors also provide the necessary heat and electricity to two "closed nuclear cities" in Siberia, Seversk and Zheleznogorsk. The United States agreed to provide support to the Russian Federation to significantly refurbish a replacement fossil energy plant at Seversk and construct a replacement fossil energy plant at Zheleznogorsk, while Russia has agreed to permanently shut down the reactors once the replacement facilities are operational.

This issue was discussed at a two-day international conference entitled "Securing the Future of Seversk and Zheleznogorsk after Reactor Shutdown" held on February 8-9, 2005 at the Spiez Laboratory, an official Swiss institution dealing with nuclear, biological, and chemical defence matters. The Swiss Federal Department of Foreign Affair's Centre for International Security Policy together with the US National Nuclear Security Administration (NNSA) and Rosatom were the primary sponsors of the event, which was attended by representatives of 11 countries including the United States and Russia, the European Commission (EC) and the International Atomic Energy Agency (IAEA).

At the conference it was noted that Russia needed $89 million to shut down two plutonium production reactors at Seversk and one in Zheleznogorsk by 2006.[48] According to the director of the Seversk-based Siberian Chemical Combine, Vladimir Shidlovsky, who participated in the conference, Russia's proposals on the decommissioning of reactors and solving a range of related problems, including environmental ones, received a favourable reaction by the participants of the conference. Mr. Shidlovsky noted that "… *specific projects were discussed in detail during the second day of the conference, including technical issues, implementation deadlines and cost estimates. Of course, now the European Union will request additional information from Rosatom and thoroughly study it. But I think that despite the fact that these procedures will require time, the financial issue will be eventually resolved in our favour*."[49]

In general, prospects for implementing the plutonium disposition program in the foreseeable future remain uncertain. The United States is not willing to compromise on the liability issue, while Russia is unlikely to finance plutonium disposition from its own budget.

Second Line of Defence: Customs Checkpoint Upgrades

New proliferation threats that emerged after the break-up of the Soviet Union required the adoption of new complex measures to prevent one of the gravest dangers to international security – illicit trafficking in radioactive and nuclear materials and the possibility of non-state actors, including terrorists, acquiring WMD components. In addition to the necessity to enhance security systems at the facility level and to institute an effective system of export controls, which could be regarded as the "first line of defence" against proliferation, additional measures were needed, such as upgrades at customs checkpoints, where illicit trafficking of WMD components should be stopped if the "first line of defence" failed. The program for making such upgrades is known as the "second line of defence". Initially the Second Line of Defence program was initiated by the US DOE in 1998. The objectives of the program include:

- Equipping strategic transit and border-crossing points, including Russian airports and seaports, with technical means of radiation monitoring;
- Developing a necessary legal base;
- Creating an infrastructure for effective control over nuclear and radioactive materials;
- Developing and implementing joint training programs.

After 9/11, the scope of the program was broadened and it became focused not only on projects in the former Soviet Union, but acquired a truly global nature. For example, in 2003 a new program called "Megaports" was added to Second Line of Defence. In the framework of this program, it is planned to enhance the security of key world seaports. The Second Line of Defence activities also fit the goals of cooperation in the framework of the Proliferation Security Initiative (PSI), proposed by the United States in May 2003 and joined by the Russian

Federation at the First PSI Annual Meeting in May 2004. As of 2003, the achievements of the Second Line of Defence program included the following:

- Equipping 15 of 20 strategic transit and border control points with 130 control systems;
- Developing a training and educational program for customs and border control officers and providing necessary materials and equipment for its implementation;
- Developing educational materials for 30,000 Russian customs officers working at checkpoints;
- Conducting an assessment by the US national laboratories of equipment to be used in Second Line of Defence programs;
- Enlarging the geographic scope of the program to the 19 states in Central and Eastern Europe, the Caucasus and Central Asia.[50]

In 2003 figures for equipment of Russian customs checkpoints with necessary systems constituted (compared to necessary levels): 70% for stationary technical systems, 38% for radiometric and spectrometric systems, 30% for portable detection devices and 40% for radiation safety systems. During 2003, Russian customs detected more than 300 cases of illegal transfer across Russian customs borders of fissionable materials, radioactive goods and vehicles.

These figures once again underscore a need for further increased attention by GP countries to this area of cooperation. Other GP countries besides the United States should pay closer attention to Second Line of Defence programs, especially given the fact that potential nuclear smuggling from Russia may go through their territories.

BIOSAFETY AND BIOSECURITY – A NEW PRIORITY?

Although biosecurity was not explicitly mentioned in the Kananaskis documents as one of the priorities of the Global Partnership, some G8 states were interested in keeping this issue on the GP agenda. For example, the then US Under-Secretary of State John Bolton, while answering a question on different conflicting priorities of GP countries mentioned that, "…*we debated this extensively at Kananaskis and made it clear that for us, issues like biological weapons were going to remain a very high priority*."[51]

The importance of biosecurity issues has grown recently given the real threat from WMD terrorism. Of all the types of WMD terrorism, biological terrorism is the only one which actually occurred after 9/11 (in the form of the anthrax attacks in the United States in the fall of 2001). Taking into account a number of factors, including the increased availability of critical information and key components in the area of biotechnology, and attractiveness of BW for mass casualty terrorism, one could come to a conclusion that non-state terrorist actors may seek to acquire such capability.

For instance, a National Intelligence Council (NIC) report, published in December 2004, notes that "*as biotechnology information becomes more widely available, the number of people who can potentially misuse such information and wreak widespread loss of life will increase. An attacker would appear to have an easier job—because of the large array of possibilities available—than the defender, who must prepare against them all. Moreover, as biotechnology advances become more ubiquitous, stopping the progress of offensive BW programs will become increasingly difficult. Over the next 10 to 20 years there is a risk that advances in biotechnology will augment not only defensive measures but also offensive biological warfare (BW) agent development and allow the creation of advanced biological agents designed to target specific systems—human, animal, or crop*." Furthermore the report emphasizes that "***our greatest concern is that terrorists might acquire biological agents*** *or, less likely, a nuclear device, either of which could cause mass casualties. Bioterrorism appears particularly suited to the smaller, better-informed groups. Indeed, the bioterrorist's laboratory could well be the size of a household kitchen, and the weapon built there could be smaller than a toaster. Terrorist use of biological agents is therefore likely, and the range of options will grow. Because the recognition of anthrax, smallpox or other diseases is typically delayed, under a "nightmare scenario" an attack could be well under way before authorities would be cognizant of it*".[52]

The threat of bioterrorism recently has been getting wider international recognition, as manifested, for instance, by the first Interpol global conference against bioterrorism, which took place in March 2005 and gathered representatives of police, senior officials and experts from 155 countries. During his remarks at the conference, Interpol Secretary General Ronald K. Noble stated that "*the evidence uncovered by law enforcement and concerns voiced at global, regional and national levels regarding the potential use of biological agents by terrorists to*

perpetrate a mass casualty attack demonstrate that we face a very real and present threat".[53]

The G8 Action Plan on Non-proliferation, adopted at Sea Island in 2004, mentioned bioterrorism as a key concern and called for the adoption of a set of measures at national and international levels to prevent it. The Russian Federation will obviously be a key player in this process, given the size of its biotechnology complex.

Russia has inherited from the Soviet Union a vast biotechnology infrastructure. Before President Boris Yeltsin admitted violations of BTWC by the Soviet Union in 1992 and subsequently ordered a halt to all such activities, the Soviet BW-related complex numbered more than 40 enterprises involved in research, production and testing of BW components. The facilities involved in this program employed up to 100,000 people. Currently Russia possesses all the known dangerous pathogens, which could be used for manufacturing of BW, including smallpox.[54]

Cooperative biosecurity and biosafety projects in Russia, including securing dangerous pathogens, are being pursued by the US, France and Sweden. Britain is providing assistance to former Soviet States such as Kazakhstan and Georgia. France allocated approximately 5 million euros for projects aimed at increasing security at Russian facilities. The US funding for the program aimed at increasing the safety and security of dangerous pathogen collections in Russia, Kazakhstan, Uzbekistan, and Georgia is $54 million for FY 2003 and FY 2004. A further $10 million was allocated for retraining and employment of former weapons scientists. The Swedish sum of assistance is small by comparison, amounting to $130,000, earmarked for various biosecurity projects.[55] In addition to those sums of assistance, some funds are channelled through the International Science and Technology Center.

US Assistance

As of August 2004, joint US-Russian research was being conducted at 49 facilities, and security improvements are underway at 4 former BW sites. The US Cooperative Threat Reduction assistance programs in biosafety and biosecurity have the following main objectives:

1) ensuring physical protection of facilities housing dangerous pathogens;
2) increasing the security of storage of pathogens collections;
3) improving accounting and control of dangerous pathogens collections;
4) converting former military BW facilities towards civilian uses.

It important to note that the **US assistance is focused only on those Russian biotechnology facilities which are subordinated to civilian agencies**, and exclude those subordinated to the Ministry of Defence due to their secrecy. According to US Senator Richard Lugar, the United States is "*making progress in converting Russia's BW facilities to peaceful uses and in employing its former bioweapons scientists. But there is a major gap in the program: Four former Soviet military facilities have not opened their doors to inspection. We must make it a priority to close that gap.*"[56]

Apart from enhancing the security of biological facilities, the United States has been focusing on the redirection of former weapons scientists. The Unites States has been using the International Science and Technology Center (ISTC) and the Scientific Technical Center of Ukraine (SCTU) to achieve this goal. Since 2002 the United States has funded 293 civilian research projects through these two centres.[57] Institutionally, the US CTR assistance in the biological sphere is provided through Department of Defense, State Department and Department of Energy programs.

The Department of Defense, through its Biological Weapons Proliferation Prevention Program, has four major project areas devoted to the reduction of bio-threats:

- The Cooperative Biological Research program funds civilian research projects at eight bio-institutes in the former Soviet states;
- The Bio-Safety/Bio-Security program has sponsored training courses for scientists in proper animal care and animal testing procedures and installed physical security systems in Russian, Kazakh, and Uzbek institutes;
- The Infrastructure Elimination Program has removed weapons-related equipment from former BW production facilities in Kazakhstan and Uzbekistan;
- The Threat Assessment/Disease Response Program is designed to upgrade the diagnostic methods of outdated disease monitoring facilities in Kazakhstan, Uzbekistan, and Georgia and to relocate pathogen libraries from these Soviet-

established tracking stations to central reference laboratories.

The total funding for these four efforts is about $55 million per year. In its fiscal year 2005 budget request, the DOD proposed substantially cutting cooperative research funding and more than doubling funds for biosecurity and biosafety.[58]

The State Department runs two programs:

- the **Bio-Chem Redirect Program**, aimed at engaging former biological and chemical weapons scientists in projects with US firms and institutions;

- the **Bio-Industry Initiative** (BII) aimed at the conversion of former BW facilities. The BII facilitates partnerships between US pharmaceutical companies and their Russian counterparts; it utilizes consultation of both Western and Russian marketing, business and engineering experts to assess and characterize core capabilities and strategic planning for the institutes; and it develops skills and infrastructure required for a viable biotech sector in Eurasia. The BII is a US Government program providing patenting, commercialization, training, and business and market development for both the research institutes and large-scale production facilities in the former Soviet Union.[59] The BII receives annual funding through the US DOD and the Department of State's Office of Proliferation Threat Reduction, which supports both the Science Centres and the Bio-Redirect non-proliferation programs working in Eurasia. The BII works as part of a coordinated effort with the Department of Health and Human Services (DHHS), the Department of Agriculture (USDA), and the Environmental Protection Agency (EPA). The implementation network for this program includes the Center for Innovative Medicine and Integrated Technology (CIMIT), the Civilian Research and Development Foundation (CRDF) and the International Science and Technology Center (ISTC). The BII major directions are:
    - o accelerating vaccine development through joint projects involving US and Russian institutions, in particular the State Research Centre of Virology and Biotechnology *Vector* (Koltsovo, Novosibirsk region);
    - o ensuring the sustainability of the Russian research institutions by developing an international client base for certified toxicology testing services, building institutional pre-clinical toxicology capacities, and validating data to US Government regulatory agencies through the Russian- American Bio-Industry Initiative Integrated Toxicology Testing (RABIITT) program;
    - o supporting various commercialization activities for Russian enterprises, including sponsoring participation of Russian researchers and institutions in the Biotechnology Industry Organization's (BIO) trade shows.

Another major program is the State Department-funded **Biotechnology Engagement Program** (BTEP) which was developed by the US Department of Health and Human Services (HHS) at the request of the Department of State and the DOD. The goal of the program is to engage Russian and other CIS countries' former BW scientists into collaborative research on applied high-priority public health problems.[60] In addition, the DOE is spending approximately $7-8 million annually for programs to re-employ biological experts in commercially oriented projects.[61]

The cooperation between the United States and Russia has been hampered by American allegations that Russia is violating its Biological and Toxin Weapons Convention (BTWC) obligations. The US accusations in this regard are quite blunt: "*We believe, based on available evidence, that Russia continues to maintain an offensive BW program in violation of the Biological and Toxin Weapons Convention.*"[62] Russian officials of course hold a diametrically opposite view. For instance Russian Defence Minister Sergey Ivanov stated that "*Russia is not developing and has no plans to develop biological weapons*"[63] Further he noted that, since the United States had rejected the verification protocol to the BTWC[64], it might be pursuing an offensive BW program.

Another problem for cooperation is the US insistence on full access to biological facilities run by the Russian MOD, without reciprocal obligations. The US side blames the Russians for lack of access. For instance, part of the problem in gaining

access to the Defence Ministry facilities, according to a US GAO report, was that "*the same generals who directed the Soviet biological weapons program continue to lead the greatly reduced Russian military defensive biological weapons program.*"[65] Some US politicians have independently tried to resolve access issues with Russia. In 2002 US Senator Richard Lugar travelled to one Russian biodefence facility, Kirov-200, but Russian officials barred him from entering the facility at the last minute, despite the fact that it appeared that access would be granted. In this regard, Lugar noted in frustration: "*[T]hey [the Russians] were interested in getting…pharmaceutical companies to invest in these facilities. But as I told them, it's a non-starter if investors can't even get inside the place*."[66] Russian authorities, including the Minister of Defence Sergey Ivanov provided no explanations for the refusal during a meeting with Lugar the following day.

In order to effectively engage Russia in the biological sphere, donor countries should avoid politicizing the problem. Accusing Russia of not meeting its BTWC obligations and linking this issue to continuing assistance in other spheres like chemical disarmament has been counter-productive and has not brought the goal of achieving more transparency closer.

Russian Approaches to Biosecurity

Until recently biosecurity had enjoyed relatively little attention from the Russian government. There is not any significant state support for R&D or procurement of goods and technologies which could be used for countering biological terrorism.[67] Russian experts note that the market for such goods and technologies could be occupied by foreign companies if no action is taken by the government.[68] At the same time the Russian government has not received any proposals from the Russian business structures about any parameters of state policy in the area of biosecurity. However this situation is gradually changing. Following the anthrax attacks in the United States (Fall 2001), Russian President Vladimir Putin noted that "*the goal of terrorists is to get access to WMD, and bioterrorism has become a reality of contemporary time*", and said that this would require adjusting the priorities of national defence policy.[69]

According to the director of the State Research Centre of Virology and Biotechnology *Vector,* Lev Sandakhchiev, "*terrorists can easily persuade the low-paid, former-USSR bio-scientists into the creation of biological weapons*."[70] Biosecurity issues were discussed at a Russian Security Council Meeting in December 2003. The State Concept on Chemical and Biological Security was considered at that meeting; however, no financing for its implementation was allocated. Despite increased attention to the problem during the first half of 2004 due to a number of factors, including the reorganization of the Russian government, there was not any progress in addressing it. In October 2004 the first concrete steps in this area were taken. The Russian Ministry of Health and Social Development submitted to the government a package of documents aimed at ensuring biosafety and biosecurity in the Russian Federation. According to a statement made by the Russian Health and Social Development Minister, Mikhail Zurabov, "*the reality of bioterrorism is no longer a myth in the contemporary unstable world. All civilized countries are vulnerable to this threat, therefore Russia needs to create an effective biosecurity system.*"[71] The package of proposals envisages the creation of a special commission on biological and chemical security which will coordinate the activities of different state agencies. This development corresponds well to Western expectations. For example, the director of the US-based Center for Non-proliferation Studies, William Potter, stated that "*what is badly needed is a focal point within the Russian government for biosecurity cooperation.*"[72]

According to the chief epidemiologist of Russia, Gennady Onishchenko, the commission will be headed by the Minister of Health and Social Development and its members will include "*the representatives of all the 'power' ministries and agencies, the ministry of Science and Education and the ministry of Agriculture, having the rank not lower than deputy minister*."[73] The Russian Ministry of Health and Social Development also started to work out a Federal Program on Biosecurity in the Russian Federation, which will have its own financing from the Russian budget. The program will cover such aspects as coordination of scientific research; creation of a system for early identification of dangerous pathogens; refurbishing scientific centres with new equipment; enhancing biosecurity and biosafety of facilities containing large quantities of dangerous pathogens; creating, in collaboration with the customs service, a more effective system of control on the borders and on the entire Russian territory; and providing new equipment to medical centres and epidemiology control centres.

However some Russian experts express a different view on the current Russian policy in the biosecurity

area. "*Russia has effectively wound up its program to develop protection against pathogens. From 2005 onwards this program is not being funded*," said Lev Sandakhchiyev, adding that there are no "real, constructive programs" among Russia, the United States and Europe for cooperating to counter the threat of biological terrorism.[74] Other experts note that the documents which established the commission on biological and chemical security do not describe a mechanism that would allow this commission to influence the Russian government's policy in this area.[75] In general, Russian experts who took part in a seminar on biological security in Russia, organized at the PIR Center in Moscow in March 2005, held a consensus view about the lack of coherent Russian policy in the domains of biosecurity and biosafety.

The Russian and US presidents agreed at their meeting in November 2001 to combat bioterrorism and issued a joint statement which read: "*We agree that, as a key element of our cooperation, to counter the threat of terrorist use of biological materials; officials and experts of the United States and Russia will work together on means for countering the threat of bioterrorism, now faced by all nations, and on related health measures, including preventive ones, treatment and possible consequence management. We will continue to work to enhance the security of materials, facilities, expertise, and technologies that can be exploited by bioterrorists. We also confirm our strong commitment to the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction. We have directed all of our officials and experts working on these critical matters to expand their cooperation and to consult on strengthening related international efforts*."[76] However the practical level of cooperation between the two countries remained low. US Senator Richard Lugar commented that the refusal of Russian authorities to expand cooperation with the United States "*shows that Putin is far ahead of much of Russia's bureaucracy on these matters*."[77]

What should be the next step in biosecurity cooperation?

Instead of stressing the threat of BW proliferation emanating from Russia, a broad approach is needed which would foster the transformation of the former Soviet BW complex and integrate it into a means of international collaboration and joint research, possibly including biodefence, commercial cooperation, and retraining programs. The dual-use nature of biotechnology, apart from proliferation dangers, offers opportunities for speedier and more thorough conversion of former BW facilities to civilian uses. Joint research in the biodefence sphere can also be discussed. In order to achieve these goals, however, Russia and its partners need to create a better legal basis for cooperation and resolve intellectual property and transparency issues, which are difficult tasks. However, increased cooperation in this area will benefit Russia and all the GP donor countries in the long run.

Given the broad range of threats which may emanate from biopathogens, attention should be paid not only to the possibility of their use as BW against humans, but also against plants and animals, which constitute the nutritional base for humanity (food terrorism). Environmental aspects of biosecurity should be further studied and developed by concerned parties.

Russia should pursue cooperation in this area not only with its main partner to date – the United States – but also with other interested countries, which include Canada, France, Germany, Sweden, and Switzerland. Given the advanced level of biotechnology in these countries, cooperation with them in such areas as research of new vaccines and drugs against infectious diseases looks quite natural. For Russia itself, the problem of combating infectious diseases has recently come to the forefront. Combating this problem for Russia has become a priority since it could improve both the health of the population and increase the nation's resilience against potential biological attacks. On the other hand, Russia can also contribute to joint research of vaccines against tropical diseases, including emerging ones. Russian experience in the monitoring and prevention of epidemics also should not be underestimated. For example, Russia managed to take successful measures against the spread of SARS, despite its long border with China. Only one case of SARS in Russia was reported and the patient who had the disease was successfully treated.

One of the first steps which should be taken is establishment of **common standards in the area of biosafety and biosecurity**. Russia will have to take this measure also in the light of its accession to the World Trade Organization (WTO). Before agreeing on common standards even more basic steps could be envisaged. For instance, working out a **common glossary of terms of biosecurity** by Russia and Western experts could pave the way to further more substantial cooperation and ensure that both sides at least have a common

understanding. Based on that, further steps could be taken including scientific exchanges, transparency and confidence-building measures, and creating commercially viable and mutually beneficial joint ventures. It is not certain yet whether the Russian side is prepared to discuss a comprehensive plan of action in the area of biosecurity with its Western partners, but such a measure in theory would greatly streamline cooperation and increase its effectiveness.

Another important question is the format of discussions between Russia and its Western partners on biosecurity cooperation. It is unlikely that the GP program framework would be ideal in this particular case. A more productive approach could be the development of bilateral (and, in certain cases, also multilateral) agreements between Russia and its partners as part of broader scientific and technological cooperation. This could be a better basis for further commercialization of those projects which prove to be not only important from the security viewpoint but also profitable.

In any event, it is obvious that the problem of biosecurity cooperation needs closer attention by the policy leaders and more involvement of experts, both governmental and non-governmental, in Russia and other interested states to work out recommendations for cooperation in this area.

GEOGRAPHIC EXPANSION OF THE GLOBAL PARTNERSHIP

The G8 leaders' statement adopted at the Kananaskis summit read that GP projects will be pursued "initially in Russia" thus providing an opportunity for future expansion of the number recipient countries. At the 2004 Sea Island Summit, the G8 leaders agreed to support non-proliferation projects. A specific reference was made to **Iraq** and **Libya**. The G8 Action Plan on Non-proliferation adopted at Sea Island stated that: "*We will address non-proliferation challenges worldwide. We will for example, pursue the retraining of Iraqi and Libyan scientists involved in past WMD programs. We also support projects to eliminate over time the use of highly enriched uranium fuel, control and secure radiation sources, strengthen export control and border security and reinforce biosecurity. We will use Global Partnership to coordinate our efforts in these areas*."[78]

As for Libya, in September 2004 the United States announced that it had essentially dismantled its WMD program. Further activities will focus on engaging Libyan scientists in cooperative threat reduction activities.

Another country that was mentioned in Sea Island documents, and which became the first country outside the former Soviet Union slated to receive assistance from the US CTR program is **Albania**. The United States plans to provide Albania with about $20 million over two years to eliminate 16 tons of chemical agents. Switzerland also participates in the destruction of Albanian CW stockpiles.

Another avenue of expansion of the GP is including other former Soviet countries as recipient member states. Although no formal announcement has been made, **Ukraine** has officially joined Russia as a GP recipient in the end of 2004[79], opening the field of recipients for further expansion in 2005. In November 2004, Ukrainian officials attended a GP Working Group meeting in Washington to discuss potential projects.

Other recipient candidates being discussed include **Kazakhstan**, **Georgia**, and **Uzbekistan**. It is necessary to note that these countries have already been receiving non-proliferation assistance from the G8 countries and their formal inclusion in the GP as recipient countries would just institutionalize the already existing practice. Among the G8 countries, the bulk of assistance is provided by the United States in the framework of its CTR program. The states eligible for CTR assistance include Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Turkmenistan, Ukraine and Uzbekistan. US assistance covers nuclear and biological non-proliferation, export and border control, and retraining programs.[80]

It was initially expected that the first circle of enlargement of recipients would occur during the 2004 G8 Summit at Sea Island. On the eve of the summit various US officials spoke of the need to increase the number of GP recipient states. For example, US Ambassador to Russia Alexander Vershbow said in his remarks at the conference on the GP organised by the PIR Center in Moscow in April 2004: "*We need to expand the reach of the Global Partnership. From the outset, our commitment was to begin in Russia, but to expand to include key states of the former Soviet Union. We believe that the time has come to do that, and that Ukraine is a natural choice as the next recipient nation. Russia will remain our priority, and widening the circle of recipient countries will not diminish or dilute Global Partnership efforts underway in*

Russia. Yet we believe that a global problem requires an appropriately global approach."[81] Another senior US official said that "*we also would like to see countries such as Kazakhstan, Uzbekistan, and Georgia invited to join the Partnership.*"[82]

Still, at the Sea Island Summit in June 2004, reportedly because of resistance from Russia in private and reluctance of Germany in public, no formal expansion of the number of recipient countries took place. On September 10, 2004 a meeting of the G8 Senior Group was held in Geneva, where the geographic expansion of the GP was discussed. John R. Bolton, Under-Secretary for Arms Control and International Security, who was presiding the meeting, said that the Senior Group **"***had presentations by nine former republics of the Soviet Union, in many of which the United States already has programs but which the G8 is considering for formal membership in the Global Partnership. Since Kananaskis, we've added 13 new donor countries, and I expect that by the end of the year we will add some number - two, three, four - additional recipient countries in addition to the Russian Federation*."[83]

However, the United States failed to add any countries except Ukraine to the list, and that issue was transferred to the United Kingdom presidency of the G8 in 2005. David Richmond, the Director-General for Defence & Intelligence of the UK Foreign & Commonwealth Office and the Chair of the Senior Non-proliferation Officials Group of the G8, said in January 2005 that, following Ukraine's accession to the GP, "*applications of other former Soviet Union countries are being considered*", without specifying the countries or time-frames for their accession to the GP. He also said that "*in the Global Partnership, we will focus on making progress with applications from other former Soviet Union countries according to the Kananaskis Principles and the review of priorities which we intend to initiate. We shall also encourage ongoing work outside the former Soviet Union, including Iraq and Libya, though not formally in the Partnership. Britain and a number of other partners already implement GP-type projects in FSU* [Former Soviet Union] *countries other than Russia and Ukraine (e.g. Kazakhstan, Uzbekistan, Bulgaria and Armenia).*"[84]

Some experts also propose adopting cooperative threat reduction mechanisms with **India**, **Pakistan** and **North Korea**.[85] However, whether the GP mechanism is well-suited for such programs or rather they should be done on an ad-hoc basis remains an open question. It should be noted that, at Sea Island, the G8 countries fell short of establishing any timeframe for the inclusion of new members to the Global Partnership or even stating directly that these new countries would be admitted into the program as formal members. Instead it was decided to focus on projects in Russia for the time being. Such an approach seems quite reasonable, since the implementation of projects in the key country, the Russian Federation, is still an ongoing process, which is not yet running smoothly.

The admission of new countries outside of the Former Soviet Union, such as Libya or Iraq, as formal members of the GP will unnecessarily complicate the implementation mechanism by introducing a completely different set of problems into the agenda. Moreover, it seems that it is too early to consider the expansion of the number of recipient states when the target for financing the initial GP pledge of $20 billion has not yet been reached.

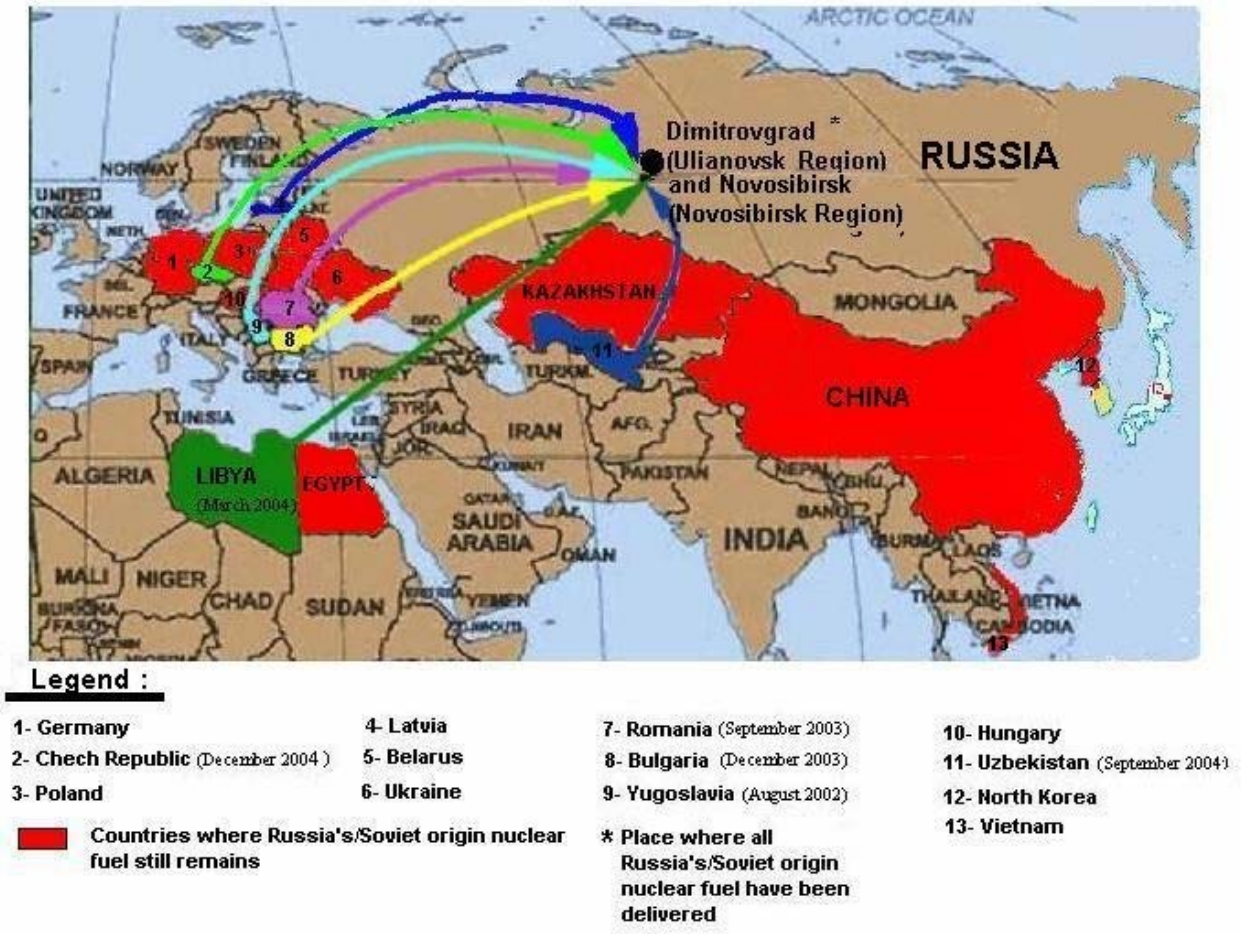
The approach which the G8 chose to pursue in 2004 in this regard seems quite balanced: Russia remains the key focus of GP; other countries where CTR activities have been going on for long time, such as Ukraine, get gradually recognized as formal GP recipients; while non-proliferation projects are pursued worldwide and are coordinated with the core GP activities in the framework of a broad G8 strategy of combating WMD proliferation. This was reflected in the modification of the GP implementation mechanism in 2004 when a two-tier system was created; the practical implementation issues are addressed in the framework of the GP Working Group, while the G8 Senior Group addresses the whole range of non-proliferation issues, including the GP.

In parallel with these commitments at Sea Island to expand the GP, the United States announced on May 26, 2004 a new initiative aimed at the clean-out of vulnerable nuclear material from sites around the world, which was named the **Global Threat Reduction Initiative (GTRI)**. According to the former US Secretary of Energy Spencer Abraham, the GTRI was developed "*with the expectation it can comprehensively and more thoroughly address the challenges posed by nuclear and radiological materials and related equipment that require attention, anywhere in the world…*"[86] The GTRI funding constitutes $450 million which will be used for:

- removing all HEU research reactor fresh fuel of Russian origin by the end of 2005

and repatriate all the spent HEU fuel by 2010;
- repatriating all the US-origin spent fuel;
- converting the research reactor cores to the use of LEU instead of HEU;
- identifying other nuclear and radiological materials and related equipment that are not covered by existing threat reduction programs.

Map 1. Russian Research Reactor Fuel Return Program.



Sources: http://www.nnsa.doe.gov/na-20/rrrfr.shtml); PIR Center, March 2005

Increasing the number of the GP recipient countries has its pros and cons. Some experts argue that it is too early to conduct a broad expansion of the number of recipient states when the key country, Russia, has received less assistance than had been pledged. For instance, 69% of experts who filled out a questionnaire distributed at the international conference on the GP organized in Moscow by the PIR Center and the Board on a Sustainable Partnership for Russia in April 2004 supported such a view. On the other hand, some Russian experts have no formal objections to the GP expansion. This point was well articulated in an article published in *Yaderny Kontrol,* the Russian international security journal: "*Does the expansion of participation in the GP to other CIS countries suit Russian interests? I believe that the answer must be positive. It is in Russia's interest that there are no national security threats on its borders, that no terrorists are supplied in any way (technically, financially) from CIS territory*."[87] In our view, Russia can also contribute to non-proliferation projects in the former Soviet countries as a donor state, especially in such areas as non-proliferation education and the training of specialists from these countries.

LONG-TERM SUCCESS AND SUSTAINABILITY OF G8 GLOBAL PARTNERSHIP PROGRAMS

Despite the fact that in 2004 the GP program was gradually shifting from the domain of political declarations towards concrete implementation of specific projects, this progress was much slower than expected. In order to illustrate this point, one can look at a comparison between the goals which were declared in the 2003 GP Action Plan adopted in Evian and what has been achieved (See Table 2).

Table 2. Global partnership goals vs. real achievements

Evian Action Plan goal (June 2003)	Result (as of March 2005)	Comments
Reaching the Kananaskis funding target.	Practically achieved	As of February 1, 2005, only $413,000 was still needed to be declared by a GP donor country to achieve the 20 billion USD target[88]. However, this success was achieved considerably due to the dramatic fall of the US dollar since June 2002.
To significantly expand project activities, building upon preparatory work to establish implementing frameworks and to develop plans for project activities, as well as to sustain steady progress in projects already under way; (…) continue to review progress in initiation and implementation of projects over the coming year, as well as oversee coordination of projects, in order to review priorities, avoid gaps and overlaps, and assess consistency of projects with international security objectives, in accordance with our priorities.	Done partially	While concrete implementation of many projects has started, many areas of cooperation, such as plutonium disposition, experienced a slowdown. There are still deficiencies in the coordination of projects and significant gaps and overlaps in place.
To resolve all outstanding implementation challenges and to review the implementation of all guidelines in practice, keeping in mind the need for uniform treatment of Partners, reflecting our cooperative approach.	Not done	Major stumbling blocks such as liability, access have not been removed.
Expand participation to other countries.	Done	
To inform other organizations, parliamentary representatives and the public of the importance of the Global Partnership.	Done partially	Several inter-parliamentary conferences were organized to specifically engage the European representatives. However the overall level of public awareness about the GP in all the participating states remains low.

Table 3. Progress of GP cooperation in selected areas

Issue area	What has been done	Work in progress	What needs to be done
CW Destruction	Construction of 1 CW destruction facility completed, 2% of CW destroyed as of January 2005	Construction of facilities in Shchuchye and Kambarka with foreign assistance continues. Russia is funding the construction of a facility in Maradykovsky	Construction of 6 facilities is needed. Foreign donors have to provide approximately $1.2 billion
Submarine Dismantlement	As of the end of 2004, 195 submarines have been	Financing for dismantlement of 20 submarines expected	Dismantlement of approximately 100

	decommissioned, 103 dismantled. In 2004, 18 submarines dismantled, 5 financed by foreign donors	in 2005, 17 submarines are planned to be dismantled. Construction of reactor compartments' storage facility with assistance from Germany started in 2004. Projects to clean-up on-shore technical bases continue.	submarines during 2005-2010. Construction of reactor compartments' storage base and clean up of on-shore technical bases in the Russian Far East.

Warhead Security	US and other countries have provided important equipment, including emergency rescue equipment, supercontainers, dosimetres, polygraphs, equipment for conducting drug and alcohol testing, and computer equipment, which has allowed for increased warhead security in Russia; US has installed rapid upgrades at approximately 50% of warhead sites and comprehensive upgrades at approximately 5% of warhead sites as of 2004	As of 2004, DOE was planning to perform upgrades on 39 Navy sites and 25 Strategic Rocket Forces sites. DOE plans to have the Navy sites completed by 2006 and Strategic Rocket Forces sites completed in 2008. DOD was planning to upgrade 90-95 sites by 2010.	Access problems have to be avoided. Further financing for maintenance of installed security systems has to be provided.
Security of Nuclear Material (MPC&A)	22% of nuclear material received comprehensive security upgrades	Work is being done to complete all the upgrades by 2008	Increased financing is needed to accelerate the pace of work from 5% of material receiving upgrades before 2004 to 20% annually, as well as political will to resolve outstanding issues such as access to sites
Biosecurity	US is providing assistance in the range of $55 million per year. France and Sweden pledged €5 million and $130,000 respectively for biosecurity. Through the end of 2003, the ISTC had provided roughly $130 million in funding for more than 700 regular and partner projects in biotechnology and life sciences.	As of August 2004, joint US-Russian research was being conducted at 49 facilities, and security improvements are underway at 4 former biological weapons sites.	Access issue has to be resolved. Russia has to create an institutional system for its biosecurity policy. The issue should not be politicized by donor countries.

In order to achieve the long-term success of the GP, it is necessary first of all to fulfil the commitments made at Kananaskis and take the steps envisaged in action plans adopted at Evian (2003) and Sea Island (2004) and to resolve a number of problems impeding the effective implementation of the program. This includes the necessity of overcoming the funding shortage and resolving such problems with GP implementation as access to sites, taxation and liability protection.

Overcoming Funding Shortfalls

At the 2004 Sea Island summit (2004), commitments by Global Partnership countries totalled $19.2 billion – thus approaching the $20

billion goal. The increase from the previous year's figure of 17 billion was achieved partly due to the higher exchange rate of the euro against the dollar. However, while the G8 countries failed to accumulate enough money to fulfil the $20 billion pledge and while many governmental and non-governmental experts argue that **$20 billion should be a floor but not a ceiling** (this position is also supported by the United States – the biggest donor and the G8 presiding country in 2004), there was no breakthrough at the Sea Island summit in addressing this issue. The Annual Report adopted at Sea Island again reiterated the $20 billion sum as a ceiling for the GP financing. There was even a tendency for downward revision of GP pledges by some major contributors. For instance, Germany revised its pledge of €1.5 billion to "up to" $1.5 billion to prevent its contribution from being affected by fluctuating exchange rates. If we use an average exchange rate of 1.3 dollars for 1 euro, that would mean a loss of $450 for the GP funding. Experts also raise the possibility of similar steps by the EU, France, and Italy whose pledges total €2.75 billion.[89]

On the other hand, the increase of the number of donor countries does not drastically change the situation with financing. For example, the total pledge of six new countries that joined the Partnership following the Evian 2003 summit (Finland, the Netherlands, Norway, Poland, Sweden, and Switzerland) totals only $200 million. Seven countries that joined the GP after the Sea Island summit (Australia, Belgium, the Czech Republic, Denmark, Ireland, New Zealand and South Korea) also do not fit into the category of large donors. Some of them (Ireland, South Korea), as of February 2005, have not made their pledges yet at all. Thus there is a need of an upward revision of existing pledges from the countries which are members of the G8 itself.

The amount of **pledges of some G8 countries does not correspond to their economic capabilities**. In the first run, Japan, the world's second-largest economy pledged a mere $200 million. Some G8 countries have pushed Japan to revise its pledge upwards. For instance the then US Under-Secretary of State for Arms Control and International Security, John Bolton, noted in the Senate hearings held after the Sea Island summit that the United States expected Tokyo to dramatically increase its $200 million pledge to something near $1.5 billion, given the relative size of Japan's economy. Japan's G8 pledge of $200 million largely consists of monies pledged for nuclear weapons dismantlement years before. Much of the money was not spent, according to Tokyo, because it had difficulties gaining cooperation from a number of key Russian agencies. According to Bolton, the United States is continuing to press for an increase which he argued could be forthcoming once the Japanese parliament sees that Japan and Russia have resolved their initial problems and spent the $200 million.[90]

Another donor which could increase its contribution to the Global Partnership is the **European Union**. Initially, the structure of the EU assistance was heavily inclined towards the area of nuclear safety, whereas non-proliferation projects received little attention. Following the attacks of 9/11 and the terrorist bombings in Madrid in March 2004, that attitude started to change. After the adoption of the EU WMD Strategy in 2003, it is expected that the budget of GP assistance will be revised starting with the new budget cycle in 2007. The Action Plan contained in this document calls for "*increasing EU co-operative threat reduction funding in the light of financial perspectives beyond 2006. The creation of a specific Community budget line for non-proliferation and disarmament of WMD should be envisaged.*"[91]

At present, because of the lack of a specific budget line for non-proliferation projects, the EU is lagging behind in implementing its pledge to allocate €1 billion for GP projects. Also, a number of bureaucratic obstacles and the lack of political will prevent a broader EU involvement in non-proliferation assistance. According to Annalisa Gianella, the Personal Representative on Weapons of Mass Destruction to the EU High Representative Javier Solana, "*in addition to obvious financial difficulties, one problem could be that the EU as such does not feel really involved. You have some Member States who are members of the G8, and you have the Commission, but I have never witnessed a discussion in the Political and Security Committee on the Global Partnership and on how the EU should fulfil its pledge.*"[92]

Given the fact that the EU is a key donor of the program, a lot of effort was made to rally the political support from the EU bureaucracy for the program, including several intergovernmental conferences with EU and Russian participation, such as an Interparliamentary Conference held at the European Parliament in Strasbourg in November 2003. During the discussions at these events, the European representatives admitted the urgency of the threat of proliferation and agreed that

broader EU involvement is needed; however, they also stated that no significant acceleration of this effort is possible before 2007. Given the complexities of the EU bureaucratic environment, the adoption of the EU WMD Strategy (in essence, a declaratory document) and the decision to create a separate budget line for non-proliferation were presented as major achievements. Decisions to increase the EU involvement in the GP have to entail an increase of the number of officials dealing with non-proliferation, since as of 2004 only 7 individuals (3 in the Council and 4 in the Commission) were dealing with activities related to non-proliferation, arms control, disarmament and export control.[93]

Another aspect of the funding problem is that only a small fraction of the money pledged actually reaches Russia. At the conference dedicated to the implementation of the GP, which was organized in Moscow in April 2004 by the PIR Center and the Council for Sustainable Partnership for Russia (SUPR), experts noted that during the first two years of the functioning of the Global Partnership, Russia has received from donor countries, excluding the United States, less than $50 million dollars, a pace that will require 400 years to fulfil all the funding commitments.[94] Furthermore, 82% of experts participating in that conference considered there to be a significant gap between the money pledged and the money spent for non-proliferation projects. [95]

Despite the fact that funding shortfalls greatly slow down the pace of implementation of the GP projects, many Western policy makers consider that to be only a fraction of a problem. For example US Senator Richard Lugar stressed in his statement at the June 15, 2004 US Senate hearings dedicated to the GP that "*funding shortfalls are not the only problem delaying progress by the Global Partnership. Russia has refused to provide the necessary access to Partnership dismantlement sites. Moscow has not granted Partnership participants tax-free status on their assistance. In addition, the lack of adequate liability protections plagues the Global Partnership, as it has the Plutonium Disposition Program.*"[96]

The Access Problem

Despite some progress in addressing the problem of access of foreign representatives to Russian facilities which was achieved in recent years, it is recurring from time to time in bilateral relations of Russia with the donor countries. Foreign donors insist on their right to monitor on-site the implementation of projects in order to ensure that their taxpayers' money is spent properly. On the other hand, Russia is concerned about the potential leakage of sensitive information. Russian officials have made statements indicating that full transparency cannot be reached. For example, the then Russian Minister for Atomic Energy, Alexander Rumyantsev, said in a March 2003 interview that "*as for access by representatives of other countries to our sites where nuclear materials are located, we will not show all sites. And where the arrangement of these installations in confidential, we will not display them for international observation. It is a question linked to our defensive capability*".[97]

In the Annual Report adopted at the 2003 Evian Summit it was noted that the simplification of access procedures by the Russian authorities, whereby the notification period was decreased from 45 to 30 days, represented an important step forward; however it is still insufficient for some donor countries.

The access problem is especially acute in US-Russian relations since there is no uniform bilateral arrangement on that issue between the two countries. If there is no progress in this area, the implementation of some important projects in the area of nuclear security could be slowed down in the coming years. According to Linton Brooks, Administrator of the US National Nuclear Security Administration (NNSA), Russia and the United States have engaged in a pilot project that will test new procedures for allowing access to even more sensitive sites. According to Brooks, "*in Russia we have remarkable access to less sensitive sites. While we have had success, we must continue to work to gain access to Russia's more sensitive sites and facilities. Reaching agreement on access to these sites is a major challenge, but is one of the final steps to secure the large amounts of nuclear material remaining.*"[98]

According to the deputy director of the NNSA, Paul Longsworth, "*we are not demanding unrestricted access but two or three times a year we simply have to enter certain installations that have been equipped with US taxpayers' money. The Congress also requires this of us. But access is becoming increasingly tricky and we are not being allowed to go to several facilities – I will not say which – on grounds of national security every time*."[99]

To gain access to buildings in the weapons complex where it had not been allowed to work, the DOE

signed an access agreement with Minatom in September 2001. In April 2002, DOE stated that this agreement would enable DOE to begin new work at several buildings in the weapons complex where it lacked access. However, the agreement did not facilitate DOE access to these buildings. The agreement only described administrative procedures, such as specifying which DOE personnel are allowed to make site visits and the number and duration of those visits.

According to the US GAO Report, "*DOE and Russian officials stated that this agreement did little to improve DOE access to new buildings, and in some cases, the agreement reduced US access. In fact, during our July 2002 visit, Minatom used the agreement as a rationale for denying GAO access to two sites in Russia on the grounds that GAO staff were not on the access list.*"[100] Overall, the United States has been given access to only four of 49 biological sites (8%) and to only 35 of 133 nuclear weapons complex buildings (26%).[101] According to a US expert assessment, "*even when Russia does grant the United States access to a site, it is sometimes limited. Such is the case with a fissile material storage facility in Mayak designed and built with roughly $375 million in DOD funds to ensure that the destruction of Russian nuclear weapons was not interrupted. In May 2002, four months before the project was to be finished, Russia began restricting the number of American personnel who could visit the entire region where the facility, then 90 percent complete, was located. Under Moscow's orders, only ten US officials and contractors could be there at one time, delaying completion of the facility, GAO found, by forcing engineers to postpone necessary trips. The United States may face access problems at the Mayak site even now that it is finally completed. In spite of years of negotiations, Washington and Moscow have yet to reach a transparency agreement that would allow the United States to confirm that Russia is storing only fissile material from dismantled warheads at the facility, as planned.*"[102]

The problem of access could be softened if alternative approaches to monitoring could be used. For example, at Snezhinsk, DOE used video and photographs instead of physical access to conduct a vulnerability assessment for part of a building where DOE did not have access.[103] The Russian official position that non-intrusive monitoring is preferable was expressed, for example, by a representative of the Russian Embassy to the US Vladimir Rybachenkov, who noted that "*there are technical means to [work...] without what we call intrusion.*"[104]

US President George W. Bush, on December 21, 2004, proposed providing Russia with increased access to US nuclear storage sites to help improve overall non-proliferation efforts. "*I think one of the things we need to do is to give the Russians equal access to our sites, our nuclear storage sites to see what works and what doesn't work, to build confidence between our two governments*," Bush said in response to a question on US-Russian relations during an end-of-the-year press conference.[105] By offering reciprocal access to US sites, US officials hope to gain increased access to sensitive Russian facilities, undermining the argument that Russia is being asked to do anything the Americans would not.

The US appears to have already begun implementing the reciprocal-access approach: According to press reports, in November 2004 a visit by a Rosatom delegation led by Anatoli Kotelnikov, the Deputy Director for Security, toured sensitive DOE nuclear facilities at the Savannah River Site, the Pantex Plant, and Sandia National Laboratories. Russian officials had never previously been allowed to tour the Pantex facility. The visitors had an opportunity to review American techniques and technology for securing nuclear warheads and materials.[106]

It was expected that the issue would be raised during the February 24, 2005 Bush-Putin Summit in Bratislava (Slovakia). However the joint statement on nuclear security adopted at the Summit did not contain any direct reference to the access problem. Furthermore, from the televised press conference by the Russian Minister of Defence, Sergey Ivanov, one could come to the conclusion that the access issue was deliberately omitted, since Russia was not prepared to make concessions there.

Liability Protection

The liability issue remains one of the biggest unresolved problems in GP implementation. Despite the signing and quick coming into force of the MNEPR agreement, as well as the conclusion of bilateral agreements of some donor states with Russia on liability protection, the issue remains unresolved in US-Russian relations. The US continues to insist on preservation of the more thorough protection guaranteed under the 1992 CTR Umbrella Agreement, which expired in 1999, while Russia is refusing to ratify the protocol to the agreement which will extend its application and insists on negotiation of a new arrangement which

would exclude Russian liability for premeditated damage.

That situation continues to hamper the progress of several US assistance programs in Russia, most notably in the area of plutonium disposition. Despite the fact that after 1999 the CTR Umbrella Agreement has been enforced on a *de facto* basis, the US is reluctant to put its entities to the risk of liability since the provisions of the agreement lack the force of law. The US is unwilling to negotiate an ad-hoc arrangement on liability, say for plutonium disposition, since it is concerned that accepting a lesser liability standard for plutonium disposition before the CTR Umbrella Agreement is approved may reduce liability protection for CTR projects.

The deadlock in the liability question has lead to the emergence of alternative proposals regarding how to resolve this problem. Some experts have explored arrangements for financing liability compensation through private insurance, public funds, and/or pooling arrangements, under which many parties agree to share the costs of large-scale damage claims incurred by any pool member.[107] During the April 2004 Conference on the Global Partnership, then Assistant to the Prime Minister of Russia Natalya Kalinina endorsed the scheme, stating that "*until the insurance companies have an agreement on liability, that issue will not be resolved.*"[108] However, she noted also that insurance companies have shown no initiative to resolve that issue.

The reluctance of the US administration to compromise on the liability issue has drawn much criticism both from the non-governmental experts and from some of the US lawmakers. For example US Senator Pete Domenici said he has "*been amazed that the leadership of the United States and Russia cannot resolve this issue. Failure to resolve this issue is simply not consistent with the urgency that the administration has attached to nuclear proliferation.*"[109] Senator Joseph Biden suggested that the dispute should be transferred to the presidential level, and that the US administration should identify incentives it can offer Russian President Putin in return for introducing the CTR Umbrella Agreement to the Duma for ratification.

Coordination of GP Programs in Russia

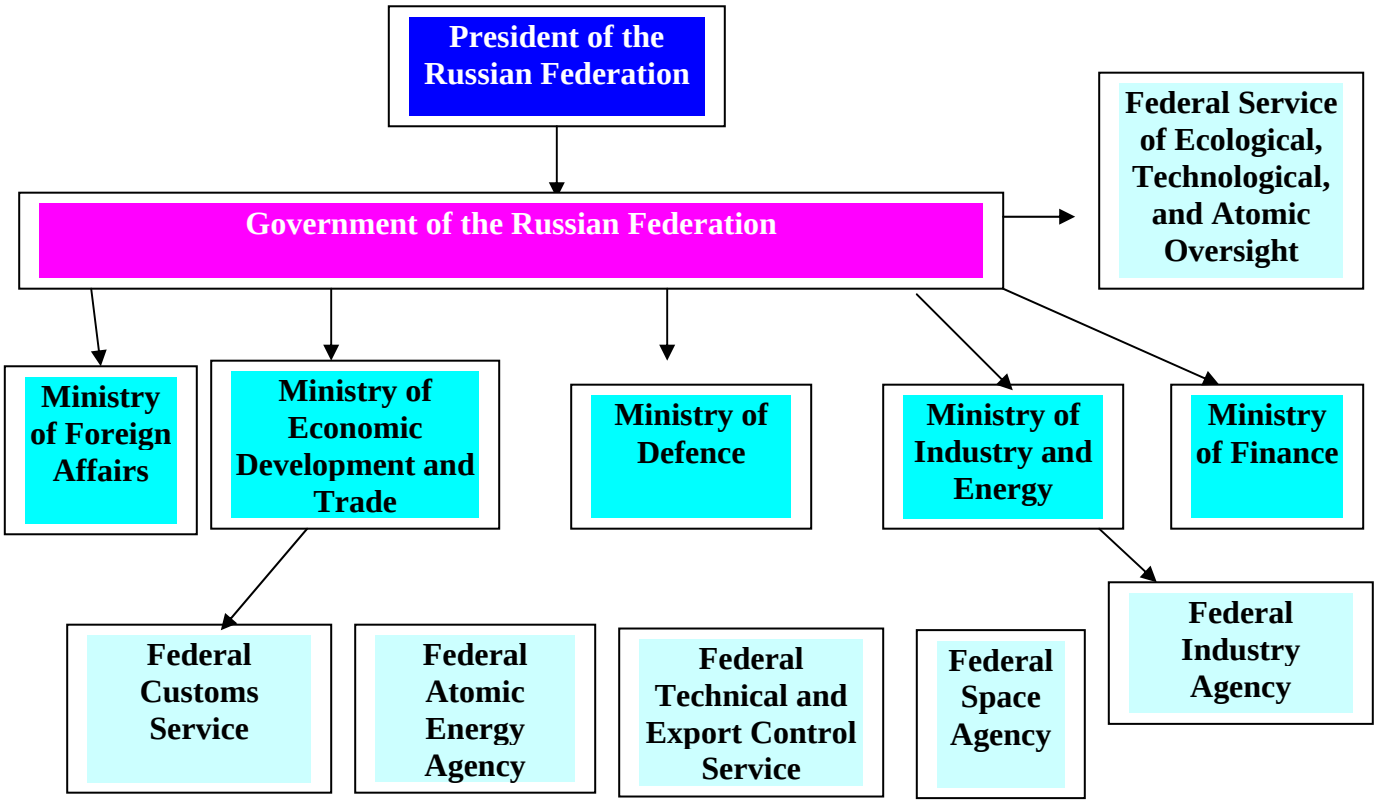
On the Russian side, the key task is ensuring effective functioning of all the government agencies responsible for the implementation process and achieving good coordination of activities between different Russian governmental entities involved in this process. Following the inception of the Global Partnership program in June 2002, an interagency mechanism for coordination of the GP activities in Russia under the direction of the Russian Prime Minister was created. Coordinators in each ministry and department involved in the GP were designated at the deputy-ministerial level. This interagency coordination mechanism proved to be rather successful, and the Russian Prime Minister took direct part in its work. For instance, in March 2003, then Prime Minister Kasyanov played a key role in resolving the issue of taxation of assistance money, which allowed for the elimination of a number of problems between Russia and the donor countries. Kasyanov took part in working out the text of the Multilateral Nuclear Environmental Program (MNEPR) Agreement, which gave way to new radiological and environmental safety projects in Northwest Russia.

The resignation of the Russian government on February 24, 2004 and subsequent government reorganizations gave rise to a number of questions from the representatives of the GP countries concerning the future of the GP coordination mechanism in Russia after the appointment of a new government.

While Russia's policy in relation to its non-proliferation obligations, including the GP Program, is consistent and irreversible and the coordination mechanism for the GP Program in Russia was not revised, still the reorganization created some difficulties. For example the lowering of the status of the Ministry of Atomic Energy initially created problems with the implementation of agreements to which Minatom was a party. The situation was corrected in May 2004 during a second "minor" reorganization of the government, when Rosatom was subordinated directly to the Prime Minister and was awarded back the right to implement international agreements. Other agencies, however, were less successful. For instance, the Russian Munitions Agency was eliminated altogether. Its functions were transferred to the Ministry of Industry and Technologies, where a special department was created.

According to the views of representatives of donor countries working with Russia on joint chemical disarmament projects expressed during personal interviews, the elimination of the Russian Munitions Agency created big problems since the decision-making process in that area was significantly slowed down and became less transparent.

Table 4. Russian Governmental Bodies Involved, Directly or Indirectly, in the Global Partnership Program



However, it should be noted that, in general, it took Russia about a year since the Kananaskis Summit decision to adjust its decision-making mechanisms to Global Partnership requirements. Since then the coordination mechanism on the Russian side has been working efficiently, though not always smoothly, and is orchestrated by the Ministry of Foreign Affairs (MFA).

Sustainability of the Global Partnership

The issue of long-term sustainability of Global Partnership programs in Russia has several aspects. One of the aspects deals with the necessity to provide long-term sustained financing for Global Partnership programs and to ensure that the funds which were invested in GP projects by the donor countries will be working after the forecasted cut-off of international assistance in 2012 when the 10-year term of the program will expire. Achieving this task will require at least *five major preconditions*.

1) *First* of all, over time it is necessary to **increase the share of financing of GP projects from the Russian budget**. It could be argued that if the positive situation in the Russian economy will be projected into the future, Russia can easily sustain financing of GP projects well beyond its current $2 billion pledge.

Although the Russian government has not published a single document outlining how it was going to spend its $2 billion pledge, according to the G8 Consolidated Report of Global Partnership Projects which was adopted at the G8 Summit at Sea Island, one can conclude that the $2 billion-figure includes only monies allocated for two priority areas: chemical weapons destruction and submarine dismantlement. According to the report, Russia spent $709.5 million in 2002-2004 for these two priority areas, which leaves the possibility that eventual Russian spending over the ten-year span of the program will go well beyond the $2 billion target. The report mentions that Russia obligated $59.6 million for submarine dismantlement in 2002, $69.2 million in 2003, and planned $64.7 million in

2004. For chemical weapons destruction, the numbers are as follows: $186.8 million in 2002, $190.7 million in 2003, and $189.4 million in 2004.[110] In 2005, as it was mentioned earlier, the financing of the chemical weapons destruction program doubled.

Still, Russian policymakers consider further increase necessary, as is evidenced by the inquiry of the Federation Council which was sent to the Russian government in October 2004. As regards the submarine dismantlement process, current financing levels (in the range of $70 billion per annum) are sufficient to achieve the goal on time.

Table 5. Financing of Russia's GP-related Pledge in 2002-2005

Sources: G8 Consolidated Report of Global Partnership Projects, June 2004; Rosatom's website www.minatom.ru; *Interfax* News Agency

Russian leadership does not neglect this issue. For instance, Russian President Vladimir Putin said, following the ratification of the MNEPR Agreement by the Russian Duma on November 28, 2003, that "*Russia of course considers submarine dismantlement to be first of all its own problem and we allocate those resources for this purpose which we are able to allocate*."[111]

Currently, due to a favourable foreign trade situation, Russia has to deal with an excess inflow of foreign currency into the country. In 2004 the foreign trade surplus was almost $80 billion. Surplus money currently is accumulated at the specially created so-called Stabilization Fund, which accumulated approximately $20 billion as of January 1, 2005.[112] It is projected that in 2006 it will increase by another $6.5 billion. The rapid increase of the Stabilization Fund's size has initiated a debate in Russia about possible ways of spending of this money. Proposals are ranging from payment of Russia's debt ahead of schedule to investing this money into large infrastructure projects inside Russia. If spending the money from the Fund inside

Russia is authorized, GP projects would represent a very good choice for such investment. Investing in GP projects will correspond to Russia's national security interests, will contribute to meeting its international legal obligations under arms control treaties, and will generally raise the prestige of the country. Moreover, increased financing from the Russian budget could help to avoid many stalemates that happened during the process of implementation of GP projects due to conflicting priorities of Russia and its foreign partners and due to other factors such as political linkages and conditionality of assistance provided.

2) The *second* precondition is **ensuring efficient and effective spending of GP funds and control over spending of funds**. This refers to spending the funds not only inside Russia, but also inside donor countries themselves. Russian experts noted that, for many donor countries, it is true that the majority of funds allocated to GP programs remained inside these countries and did not reach Russia. For example the percentage of money which rests inside the United States constitutes up to 70%.

It should be noted that the donor countries often have different estimates of the percentage of funds which reach Russia. However, in general, the situation with the spending of GP funds in many donor countries remains unclear. Control bodies in Russia and other donor countries, such as the Russian Accounting Chamber and the US General Accounting Office, have in the past undertaken reviews of the effectiveness of the implementation of GP programs, for instance in chemical disarmament and submarine dismantlement.

However despite existing bilateral agreements between the Russian Accounting Chamber and its counterparts in the United States and Europe on cooperation, exchange of information and experts, no concerted effort has been made to conduct a joint audit of GP programs.

3) *Thirdly*, achieving the full effectiveness of GP projects, in certain cases, should be done through their **conversion and commercialization**, which would create a sustainable financial base for their future functioning. Despite certain limitations, many areas of cooperation, such as biotechnology for example, are quite promising from this point of view. Once speaking about this aspect of GP sustainability, Richard Lugar noted that "*the tens of thousands of scientists we have employed are mostly working at government-sponsored or government-subsidized jobs, but a number of American companies have shown the way forward by employing some of these well-trained individuals. We must capitalize on this success by commercializing the process and move many more of these men and women into sustainable private sector jobs where they can put their skills to profitable civilian use*."[113]

Chart 2. Menu of possible new projects in 2005-2010

- Construction of a reactor compartment storage facility in the Far East
- Infrastructure development projects at the places where new CW facilities will be built
- Construction of a MOX fuel facility
- Security upgrades at the Russian facilities containing pathogens that have not received them

4) The *fourth* major precondition in achieving GP sustainability has to deal with the fact that eventually **the balance will shift from solving "hardware" problems, such as the elimination of weapons and weapons materials or installing security equipment for nuclear stockpiles, to the area of intangible security, such as preventing the illegal transfer of technology, know-how and expertise to state and non-state actors, and ensuring that all the security equipment installed is run properly**. This will require increasing the qualifications of personnel through education and training programs and improving the "non-proliferation culture" of people working in WMD-related areas.[114]

5) **Creating a favourable political environment for the functioning of current and future GP projects** is the *fifth* precondition for GP sustainability. The attitude of some donor countries should be changed, using the famous SGP-coined slogan, *from patronage to true partnership*. It is also necessary to create favourable conditions for implementing GP projects not only on the international level but inside the GP countries. One of the ways to achieve this goal would be a *greater involvement of civil society* in the formulation of GP priorities and monitoring the implementation of GP projects. Non-governmental organizations (NGOs) could link the program objectives with the interests of a wider public by informing their societies about the importance of GP programs and its main achievements and challenges.

***

The future of the Global Partnership will depend not only on how efficient the participating states, both donors and recipients, will be in meeting the tactical objectives, but mostly **on success in achieving its strategic goals and securing its sustainability**.

So far, the progress of GP implementation has been slower than expected. Particularly disappointing is the slow process by certain donor countries in converting their pledges into practical action and financial commitments – into financial transactions for specific projects.

The G8 Global Partnership should become an element of an integrated approach adopted by the international community to combat the threat of proliferation and international terrorism. Indeed first steps in this direction are being taken, as it was demonstrated at the Sea Island summit where a comprehensive Action Plan on Non-proliferation was adopted, and where GP was mentioned as one of the important elements of this plan. The goal now, as ever, is to translate the political declarations into concrete practical steps, which will require **political will and determination from the GP participating countries**.

ENDNOTES

[1] Daniil Kobyakov is consultant to the PIR Center in Moscow. Vladimir Orlov is Faculty Member at the GCSP in Geneva and Director of the Moscow-based PIR Center. The work on this paper was finalized on March 31, 2005. The data is accurate as of February 1, 2005, unless otherwise stated.
[2] Interview of a senior Russian government official [name withheld upon request] by Vladimir Orlov. Strasbourg. November 2003.
[3] Nunn-Lugar Scorecard. lugar.senate.gov/nunnlugar/scorecard.html , (accessed March 8, 2005)
[4] http://lugar.senate.gov/nunnlugar.html, (accessed March 8, 2005)
[5] Interview by a senior Russian official [name withheld upon request] to Daniil Kobyakov. Sea Island – Savannah, GA, June 2004
[6] Russian President Vladimir Putin Remarks at Press Conference Following Group of Eight Heads of State and Government Meeting, Evian, France, June 3, 2003, http://www.ln.mid.ru/brp_4.nsf/0/690ad758cb41d1e4c3256ec9001d19a0?OpenDocument, (accessed March 8, 2005)
[7] Address of the President of the Russian Federation to the Federal Assembly of the Russian Federation, May 16, 2003, http://president.kremlin.ru/text/docs/2003/05/44716.shtml (in Russian), (accessed March 8, 2005)
[8] Global Partnership Update, May 2004.
[9] Andreas Friedrich**,** Deputy Director, Centre for International Security Policy, Ministry of Foreign Affairs, Switzerland, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and materials of Mass Destruction", Moscow, April 24, 2004 (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[10] Jean-Jacques de Dardel, Statement at a Interparliamentary Conference in Strasbourg, November 2003.
[11] Further UK-Czech Republic Cooperation to Assist Russia in Destroying Chemical Weapons**,** UK Ministry of Defence**,** October 22, 2004, http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=133227&NewsAreaID=2, accessed March 8, 2005
[12] www.sgpproject.org/Sea%20Island%20recs_final.pdf, accessed March 8, 2005
[13] Russian official briefs US delegation on chemical weapons disposal. BBC/AVN Interfax, January 17, 2005.
[14] US President has permitted to resume financing construction of an object on elimination of chemical weapons in Russia in 2005. *Vremya Novostey*, December 3, 2004
[15] See: Viktor Litovkin, Russia set to meet chemical weapons destruction deadline. RIA Novosti, November 17, 2004
[16] Priorities defined for Russian chemical weapons disposal in 2005, Interfax, October 6, 2004.
[17] Chemical weapon disarmament impeded by differences between US and Russia. *Moscow News*, November 17, 2004.
[18] Finance ministry finds the money for chemical disarmament. *Kommersant*, October 7, 2004.
[19] Federation Council asks government for funds to destroy chemical weapons. RIA Novosti, October 13, 2004.
[20] James Harrison, UK MoD, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction", Moscow, April 23, 2004 (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[21] Chemical weapon disarmament impeded by differences between US and Russia. *Moscow News*, November 17, 2004.
[22] See for example: V. Kulebyakin, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and materials of Mass Destruction", Moscow, April 24, 2004 (available at www.pircenter.org).
[23] Arend Meerburg, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and materials of Mass Destruction", Moscow, April 23, 2004 (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[24] Charles Digges, "Rosatom's Antipov stumps for international help, not supervision." Bellona, November 4, 2004, http://www.bellona.no/en/international/russia/nuke_industry/co-operation/35865.html, accessed March 8, 2005
[25] Charles Digges, "Rosatom's Antipov stumps for international help, not supervision." Bellona, November 4, 2004, http://www.bellona.no/en/international/russia/nuke_industry/co-operation/35865.html, accessed March 8, 2005 .
[26] Polit.ru, November 24, 2004.
[27] Guide to the Global Partnership, PIR Center, 2005.
[28] Matthew Bunn and Anthony Wier. *Securing the Bomb: An Agenda for Action*. Washington, D.C.: Nuclear Threat Initiative and the Project on Managing the Atom, Harvard University, May 2004. p. 45.
[29] Bunn & Wier. Op. cit.. pp. 45-47.
[30] Bunn & Wier. Op. cit.. pp. 45-47.

[31] US-Russia Joint Fact Sheet: Bratislava Initiatives, http://www.whitehouse.gov/news/releases/2005/02/20050224-7.html, (accessed March 8, 2005)
[32] US-Russia Joint Fact Sheet: Bratislava Initiatives, http://www.whitehouse.gov/news/releases/2005/02/20050224-7.html, (accessed March 8, 2005)
[33] Guide to the Global Partnership, PIR Center, 2005.
[34] Mikhail Starodubtsev, Statement at the International Conference "The G8 Global Partnership Against the Spread of Weapons and Materials of mass Destruction" organized by PIR Center and Board for Sustainable Partnership for Russia (SUPR), Moscow, April 23-24, 2004.
[35] Bunn & Wier. Op. cit... p. 51
[36] GAO report GAO-03-482 'Weapons of Mass Destruction: Additional Russian Cooperation Needed to Facilitate US Efforts to Improve Security at Russian Sites' March 24, 2003.
[37] Bunn & Wier. Op. cit. p 52-55.
[38] See: 6/16/98: General Habiger evaluates Russian C3, WPCA, NTI Website, http://www.nti.org/db/nisprofs/russia/weapons/security/secdevs.htm, (accessed March 8, 2005)
[39] NTI Website, http://www.nti.org/db/nistraff/2003/20030060.htm, (accessed March 8, 2005)
[40] Bunn & Wier. Op. cit. p. 52-55.
[41] Personal interview of author with Col.-Gen. Yevgeny Maslin.
[42] Progress report, US Enrichment Corporation website, http://www.usec.com/v2001_02/HTML/Megatons_status.asp , (accessed March 8, 2005)
[43] Bunn & Wier, Op. cit, p.79.
[44] SKI Report 2004:15, Eliminating Stockpiles of Highly Enriched Uranium: Options for an Action Agenda in Co-operation with the Russian Federation, April 2004.
[45] SKI Report 2004:15, Eliminating Stockpiles of Highly Enriched Uranium: Options for an Action Agenda in Co-operation with the Russian Federation, April 2004. p.6
[46] See: Bunn & Wier, Op. cit. p. 80
[47] Bunn & Wier. Op. cit... p. 81.
[48] Rosatom website, http://www.minatom.ru/News/Main/viewPrintVersion?id=14656&idChannel=579, (accessed March 8, 2005)
[49] Vladimir Shidlovsky's interview to Tomsk daily newspaper *Krasnoye Znamya* , February 26, 2005, http://kz.sibr.ru/index.phtml?p=archive&f=1&y=2005&m=2&w=21&o=all&sa=1&sn=1&a=568, (accessed March 8, 2005)
[50] Michael Roston and David Smiegelski, Accomplishments of Selected Threat Reduction and Non-proliferation Programs in Russia, June 10, 2003, http://www.ransac.org/Publications/reports%20and%20Publications/Reports/index.asp, (accessed March 8, 2005)
[51] Global Partnership Update, May 2004
[52] Mapping The Global Future: Report Of The National Intelligence Council's 2020 Project, available at http://www.cia.gov/nic/NIC_2020_project.html, (accessed March 8, 2005)
[53] Interpol Media Release, March 1, 2005, http://www.interpol.int/Public/ICPO/PressReleases/PR2005/PR200510.asp, (accessed March 8, 2005)
[54] Alexey Shitikov, "New Directions of the Global Partnership Program", *Yaderny Kontrol*, #1, Spring 2005, pp. 159-171.
[55] Alexey Shitikov, "New Directions of the Global Partnership Program", *Yaderny Kontrol*, #1, Spring 2005, pp. 159-171.
[56] "Nunn-Lugar in an Election Year." Richard G. Lugar, Senator, August 11, 2004. Available at http://lugar.senate.gov, (accessed March 8, 2005)
[57] "Nunn-Lugar in an Election Year." Richard G. Lugar, Senator, August 11, 2004. Available at http://lugar.senate.gov, (accessed March 8, 2005).
[58] Kenneth N. Luongo, Derek Averre, Raphael Della Ratta, and Maurizio Martellini, "Building a Forward Line of Defence Securing Former Soviet Biological Weapons," Arms Control Today (July/August 2004), The Arms Control Association. http://www.armscontrol.org/act/2004_07-08/Luongo.asp , (accessed March 8, 2005)
[59] See: "BioIndustry Initative", Fact Sheet, Bureau of Non-proliferation. Washington, DC, September 16, 2003. http://www.state.gov/t/np/rls/fs/24242.htm , (accessed March 8, 2005)
[60] DHHS Biotechnology Engagement Program (BTEP), http://www.globalhealth.gov/europeaffairsdhhs.shtml , (accessed March 8, 2005)
[61] Kenneth N. Luongo, Derek Averre, Raphael Della Ratta, and Maurizio Martellini, Op.cit.
[62] Paula A. DeSutter, Assistant Secretary for Verification and Compliance. Testimony Before the House Armed Services Committee. Washington, DC, March 4, 2003. http://www.state.gov/t/vc/rls/rm/18736.htm , (accessed March 8, 2005)
[63] http://russian.people.com.cn/200109/07/rus20010907_49610.html , (accessed March 8, 2005)

[64] The United States rejected the draft Protocol resulting from the work of the Ad Hoc Group of the States Parties to the BWTC submitted to the November 2001 Fifth Review Conference of the States Parties, invoking reasons of national security, commercial property rights and enforceability. See http://www.asanltr.com/newsletter/01-4/articles/014b.htm
[65] US General Accounting Office (GAO), "Biological Weapons: Efforts to Reduce Former Soviet Threat Offers Benefits, Poses New Risks," GAO/NSIAD-00-138, April 2000, quoted in "Building a Forward Line of Defence Securing Former Soviet Biological Weapons," Kenneth N. Luongo, Derek Averre, Raphael Della Ratta, and Maurizio Martellini, Arms Control Today (July/August 2004), The Arms Control Association.
[66] US General Accounting Office (GAO), "Biological Weapons: Efforts to Reduce Former Soviet Threat Offers Benefits, Poses New Risks," GAO/NSIAD-00-138, April 2000, quoted in "Building a Forward Line of Defence Securing Former Soviet Biological Weapons," Kenneth N. Luongo, Derek Averre, Raphael Della Ratta, and Maurizio Martellini, Arms Control Today (July/August 2004), The Arms Control Association..
[67] See for example interview with Nikolay Karkishchenko, Director of Institute of New Technologies, Novaya Gazeta, July 1, 2002. http://2002.novayagazeta.ru/nomer/2002/46n/n46n-s20.shtml , (accessed March 8, 2005)
[68] Vladimir Bundin, "Russian biotechnology in the context of terrorism and biosecurity problems" (in Russian). http://www.rusbio.biz/ru/abs0006.shtml , (accessed March 8, 2005)
[69] "Putin felt the threat of bioterrorism", (in Russian), http://www.nns.ru/archive/chronicle/2001/11/12.html , (accessed March 8, 2005)
[70] "Putin felt the threat of bioterrorism", (in Russian), http://www.nns.ru/archive/chronicle/2001/11/12.html , (accessed March 8, 2005).
[71] RIA Novosti, October 26, 2004, in Integrum Techno.
[72] William Potter, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction", Moscow, April 23, 2004 (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[73] http://www.informeco.ru/stat.php?stat=231, (accessed March 8, 2005).
[74] "Russia No Longer Funding Bioterrorism Countermeasures Research, Scientist Says," *Global Security Newswire*, February 2, 2005
[75] Former senior Russian government official's presentation at a seminar on biosecurity in the Russian Federation, held at PIR Center, March 25, 2005.
[76] Joint Statement by President George W. Bush and President Vladimir V. Putin on Cooperation Against Bioterrorism, November 13, 2001.
[77] Joby Warrick, "Russia Denies US Access on Bioweapons," *The Washington Post*, September 8, 2002
[78] G8 Action Plan on Non-proliferation. http://www.g8usa.gov/documents.htm, (accessed March 8, 2005).
[79] "Ukraine Selected as Next G-8 Global Partnership Recipient, US Official Says", *Global Security Newswire*, October 14, 2005, http://www.nti.org/d_newswire/issues/2004/10/14/D2519DEB-8CB1-40ED-B3C6-4C048577A5B5.html, (accessed March 8, 2005).
[80] Testimony of Deputy Under-Secretary of Defence for Technology Security Policy and Counterproliferation Lisa Bronson Before the House International Relations Committee Subcommittees on Europe; Terrorism, Non-Proliferation and Human Rights. May 8, 2003. http://www.house.gov/international_relations/108/brons0508.htm , (accessed March 8, 2005).
[81] Alexander Vershbow, US Ambassador to Russia. Remarks at the Conference "The G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction", PIR Center, Moscow, April 23, 2004
[82] Edward Vazquez, Director, Office of Proliferation Threat Reduction, Bureau of Non-proliferation, U. S. Department of State, Remarks at the Conference "The G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction", PIR Center, Moscow, April 23, 2004
[83] John R. Bolton, Under-Secretary for Arms Control and International Security, Press Conference at the US Mission to the United Nations. Geneva, Switzerland. September 10, 2004, http://www.state.gov/t/us/rm/36104.htm, (accessed March 8, 2005).
[84] Global Partnership Update, January 2005. http://www.sgpproject.org/publications/GPUpdates/GPUpdateJan2005.pdf, (accessed March 8, 2005).
[85] James E. Goodby, Daniel L. Burghart, Cheryl A. Loeb and Charles L. Thornton. *Cooperative Threat Reduction for a New Era*. By National Defence University, September 2004
[86] www.usun-vienna.usia.co.at/Statements/Abraham.html, (accessed March 8, 2005).
[87] Anatoly Anin. "The Global Partnership Against the Spread of Weapons and Materials of Mass Destruction One Year Later: What Next?" http://www.pircenter.org/cgi-bin/pirnews/analysis.cgi?CountryID=4&Template=gp_analysis_e&L=1/t_blank, (accessed March 8, 2005).
[88] For details, see: Guide to the Global Partnership. PIR Center (in Russian), [pp.38-40], 2005
[89] Kenley Butler, "The Global Partnership 2004", http://www.nti.org/e_research/e3_49b.html, (accessed March 8, 2005).

[90] Kenley Butler, "The Global Partnership 2004", http://www.nti.org/e_research/e3_49b.html, (accessed March 8, 2005).
[91] EU Strategy Against Proliferation Of Weapons Of Mass Destruction, http://www.sipri.org/contents/expcon/eu_wmdstrategy.pdf, (accessed March 8, 2005).
[92] Interview with Ms. Annalisa Gianella, *Global Partnership Update*, March 2004, http://www.sgpproject.org/resources/Gianella%20March%201%2004.html (accessed March 8, 2005).
[93] Ian Anthony. Reducing Threat at the Source: a European Perspective on Cooperative Threat Reduction, SIPRI, 2004. p. 99.
[94] Statement by Vladimir Orlov at the International Conference "The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction" organized by PIR Center and Board for Sustainable Partnership for Russia (SUPR), Moscow, April 23-24, 2004, (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[95] Statement by Vladimir Orlov at the International Conference "The G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction" organized by the PIR Center and Board for Sustainable Partnership for Russia (SUPR), Moscow, April 23-24, 2004, (available at http://www.pircenter.org/rus/club/steno.html, accessed March 8, 2005).
[96] "Lugar Says Global Non-proliferation Efforts Falling Short," www.sgpproject.org/News/Lugar_6-14.pdf, (accessed March 8, 2005).
[97] Steve Gutterman. Minister Rumyantsev about tension between Russia and USA. Associated Press. March 26, 2003
[98] Statement by Ambassador Linton F. Brooks Administrator of the National Nuclear Security Administration US Department of Energy Before the Senate Foreign Relations Committee, June 15, 2004.
[99] "Americans do not trust Russian sentries", Izvestiya, December 14, 2004.
[100] GAO Report GAO-03-482 'Weapons of Mass Destruction: Additional Russian Cooperation Needed to Facilitate US Efforts to Improve Security at Russian Sites' March 24, 2003.
[101] Justin Bernier. "The Death of Disarmament in Russia?" Parameters, Summer 2004. p. 88-89.
[102] Justin Bernier. "The Death of Disarmament in Russia?" Parameters, Summer 2004. p. 88-89.
[103] GAO Report GAO-03-482 'Weapons of Mass Destruction: Additional Russian Cooperation Needed to Facilitate US Efforts to Improve Security at Russian Sites' March 24, 2003
[104] Peter Eisler. "Renewal of deal to help secure Russian arms in doubt." *USA Today*, December 13, 2004.
[105] Bush Seeks More Russian Access to US Nuclear Sites. NTI Website, http://www.nti.org/d_newswire/issues/2004/12/21/ab95f0b9-a632-42fa-9977-8da704067245.html, (accessed March 8, 2005).
[106] President Bush highlights importance of securing nuclear materials, offers reciprocal access to US facilities. NTI website, http://www.nti.org/e_research/cnwm/overview/cnwm_home.asp, (accessed March 8, 2005).
[107] Brubaker, Spector, "Liability and Western Non-proliferation Assistance to Russia," *The Non-proliferation Review*, Spring 2003, pp. 1-39.
[108] Natalya Kalinina, Statement at the International Conference "G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction", Moscow, April 24, 2004
[109]Pete V. Domenici, Senate Committee on Foreign Relations, June 15, 2004, "Sea Island and Beyond: Status Report on the Global partnership Against Weapons of Mass Destruction," http://foreign.senate.gov/testimony/2004/DomeniciTestimony040615.pdf , (accessed March 8, 2005).
[110] G8 Consolidated Report of Global Partnership Projects, June 2004, http://www.g8usa.gov/documents.htm, (accessed March 8, 2005).
[111] Guide to the Global Partnership, PIR Center, 2005.
[112]http://asozd.duma.gov.ru/addwork/rd.nsf/B7EDC609382570F943256EFD006B462F/$File/14.doc?OpenElement, (accessed March 8, 2005).
[113] "Nunn-Lugar in an Election Year", Delivered by Senator Dick Lugar, Chairman of the Senate Committee on Foreign Relations at the National Press Club, Washington, DC. August 11, 2004
[114] A good analysis of this issue is provided in: Nuclear Security Culture: The Case of Russia, Center for International Trade and Security, University of Georgia, December 2004