INSTITUTE OF WORLD ECONOMY AND
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RUSSIAN ACADEMY OF SCIENCES
(IMEMO RAN)

# RUSSIA:
# ARMS CONTROL, DISARMAMENT AND INTERNATIONAL SECURITY

IMEMO SUPPLEMENT
TO THE RUSSIAN EDITION
OF THE SIPRI YEARBOOK 2012

Preface by Alexander Dynkin

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The volume provides IMEMO contributions to *the Russian edition of the 2012 SIPRI Yearbook: Armaments, Disarmament and International Security*. The contributors address issues involving transition to multilateral nuclear disarmament (engaging 'third' nuclear weapons states in nuclear arms negotiations; frameworks of multilateral nuclear disarmament; a possible basis of practical negotiations; BMD developments and their implications for strategic stability).

This year's edition also highlights problems of limiting international trade in small arms and light weapons; the status of the European conventional arms control regime and ways leading to meaningful conventional arms limitation arrangements in Europe; military posture of post-Soviet Central Asian states and regional security challenges.

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**CONTENTS**

## PREFACE

The Institute of World Economy and International Relations presents in this volume an overview of the meeting of its Academic Board devoted to the theme of multilateral nuclear arms control. The meeting, chaired by Academician Vladimir Baranovsky, was attended by experts from other organizations and officials of federal government agencies, and addressed a broad range of issues of multilateral nuclear disarmament (engaging 'third' nuclear weapons states in nuclear arms negotiations; frameworks of multilateral nuclear disarmament; a possible basis of practical negotiations, etc.). A key presentation 'Transition to multilateral nuclear disarmament: issues and options' was made by Academician Alexei Arbatov.

Issues of engaging China, India, Pakistan and other members of the 'nuclear club' in negotiations on nuclear arms control are also addressed in the following papers published in this volume: Cand. Sc. Petr Topychkanov's 'Role of nuclear weapons in South Asia: policy, technologies, doctrines'; Cand. Sc. Vladimir Yevseev's 'Contemporary problems of nuclear non-proliferation. The Fifth anniversary conference of the International Luxembourg Forum on preventing nuclear catastrophe'; Cand. Sc. Tatiana Anichkina's 'Russian experts on engaging China in multilateral nuclear arms control negotiations'; Cand. Sc. Dmitry Chizhov's 'Prospects of engaging India and Pakistan in nuclear arms limitations. Review of the conference at IMEMO'.

BMD developments are changing the global strategic landscape. Cand. Sc. Natalia Romashkina in her article 'USA: regional cooperation on BMD projects' analyzes US BMD projects involving the Asia-Pacific region (Japan, Republic of Korea, Australia, and Taiwan) and the Middle East (Israel), and points out their implications for strategic stability.

Problems of limiting trade in small arms and light weapons are examined by Dr. Sc. Natalia Kalinina in her piece 'Small arms, big problems'.

The European conventional arms control regime has deteriorated in recent years. Dr. Sc. Andrei Zagorski outlines ways leading to meaningful conventional arms limitation arrangements in Europe. He argues that solutions to various problems resulting from

the erosion of the CFE regime will be easier and more likely to achieve within the OSCE framework through the modernization of the Vienna Document, rather than by means of negotiating a new full-scale conventional arms control agreement in Europe.

Military and military-technical cooperation with post-Soviet states of Central Asia has recently become an increasingly popular subject of academic analysis and focus of media attention. Cand. Sc. Stanislaw Ivanov in his article 'Military posture of post-Soviet Central Asian states and regional security challenges' lists several rules of MTC which he recommends for the Central Asian region.

Readers looking for source material on arms control are invited to keep an eye on information published under the heading 'Documents and reference materials'.

I would like to express my thanks to Academician Alexei Arbatov, Dr. Alexandre Kaliadine and Cand. Sc. Tatiana Anichkina for compiling and editing this volume and providing important contributions of their own. Appreciation is also due to the contributors to this volume – Sergey Afontsev, Vladimir Baranovsky, Dmitry Chizhov, Tamara Farnasova, Stanislaw Ivanov, Natalia Kalinina, Alexander Radchuk, Natalia Romashkina, Petr Topychkanov, Vladimir Yevseev, and Andrei Zagorski.

I gratefully acknowledge the support of this project for many years by the Swiss Federal Department of Defence, Civil Protection and Sports.

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**ACRONYMS**

| | |
|---|---|
| ABM | – anti-ballistic missile |
| ABM Treaty | – Anti-Ballistic Missile Treaty |
| ACFE | – Adapted Treaty on Conventional Armed Forces in Europe |
| ALCM | – air-launched cruise missile |
| APM | – anti-personnel mine |
| ASD | – Aerospace Defence (Russia) |
| ASEAN | – Association of Southeast Asian Nations |
| ASAT | – anti-satellite weapon |
| ASW | – anti-submarine warfare |
| ATGM | – anti-tank guided missiles |
| ATT | – Arms Trade Treaty |
| BM | – ballistic missile |
| BMD | – ballistic missile defence |
| CA | – Central Asia |
| CASA | – Coordinating Action on Small Arms (UNO) |
| CBM | – confidence-building measure |
| CD | – Conference on Disarmament (in Geneva) |
| CFE Treaty | – Treaty on Conventional Armed Forces in Europe |
| CIS | – Commonwealth of Independent States |
| CSBM | – confidence- and security-building measure |
| CST | – Collective Security Treaty (Tashkent Treaty) |
| CSTO | – Collective Security Treaty Organization |
| CTBT | – Comprehensive Nuclear Test Ban Treaty |
| DIC | – defence-industrial complex |
| DP | – defence products |
| DPRK | – Democratic People’s Republic of Korea |
| EU | – European Union |
| FA | – Federal Assembly (Russia) |
| FC | – Federation Council (Russia) |
| FBS | – forward-based system |
| FEP | – fuel enrichment plant |
| FMCT | – Fissile Material Cut-off Treaty |
| FZ | – Federal Law |
| GICNT | – Global Initiative to Combat Nuclear Terrorism |
| G8 | – Group of Eight |
| GDP | – gross domestic product |

GLONASS – Global Navigation Sputnik System (Russia)
GMD – global missile defense (the USA)
GPF – General-Purpose Forces
IAEA – International Atomic Energy Agency
ICBM – intercontinental ballistic missile
IMEMO – Institute of World Economy and International Relations
INF Treaty – Treaty on the elimination of intermediate-range and shorter-range missiles
INP – Iranian nuclear program
IRBM – intermediate-range ballistic missile
LEU – low-enriched uranium
LWR – light-water reactor
MANPADS – man-portable air defence systems
MIRV – multiple independently targetable re-entry vehicle
MOD – Ministry of Defence
MTC – military-technical cooperation
MTCR – Missile Technology Control Regime
MWS – missile warning system
NAM – Non-Aligned Movement
NATO – North Atlantic Treaty Organization
New START – Treaty between the RF and the USA on measures for the further reduction and limitation of strategic offensive arms
NSW – non-strategic weapons
NNWS – non-nuclear-weapon state
NPT – Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty)
NTMV – national technical means (of verification)
NW – nuclear weapon (warhead)
NWFZ – nuclear-weapon-free zone
NWS – nuclear-weapon state
OSCE – Organization for Security and Co-operation in Europe
RAS – Russian Academy of Sciences
R&D – research and development
RAF – Russian Armed Forces
RF – Russian Federation
RNC – Russia-NATO Council

SALW – small arms and light weapons
SAS – Small Arms Survey
SD – State Duma (Russia)
SIPRI – Stockholm International Peace Research Institute
SLBM – submarine/sea-launched ballistic missile
SLCM – sea-launched cruise missile
SNDS – strategic nuclear delivery system
SNF – strategic nuclear forces
SOA – strategic offensive arms
SRF – Strategic Rocket Forces (Russia)
SSN – ship submarine nuclear (nuclear-powered submarine)
SSBN – ship submarine ballistic nuclear (strategic nuclear submarine)
START – Strategic Arms Reduction Treaty (I, II, III)
TCBM – transparency and confidence-building measure
THAAD – theatre high-altitude area defence
TMD – theatre missile defence
TNW – tactical nuclear weapon
UN – United Nations
UNDC – United Nations Disarmament Commission
UNGA – UN General Assembly
UNSC – UN Security Council
UNSCR – UN Security Council Resolution
WMD – weapons of mass destruction

## PART I. ANALYSES, FORECASTS, DISCUSSIONS

# 1. HOW TO CREATE A PROCESS TO MAKE MULTILATERAL NUCLEAR DISARMAMENT POSSIBLE. IMEMO ACADEMIC BOARD DISCUSSES PROSPECTS OF MULTILATERAL NUCLEAR ARMS LIMITATION

The meeting of the IMEMO Academic Board was held on 26 September 2012 under the chairmanship of Academician Vladimir Baranovsky. The presentation on 'Transition to multilateral nuclear disarmament: issues and options' was made by Academician Alexei Arbatov, Head of the IMEMO Center for International Security.

The meeting was attended by leading IMEMO researchers, experts from other organizations and officials of federal governmental agencies. The participants discussed the strategic balance, the prospects of limiting nuclear forces of the 'nuclear club' members, frameworks of multilateral nuclear disarmament, and a possible foundation for practical negotiations[1].

Readers have an opportunity to acquaint themselves with the abstracts of Arbatov's presentation as well as with an overview of the discussion.

[1] On the prospects of engaging China, India and Pakistan in the process of nuclear arms limitation, see also the following materials published in this edition: Topychkanov, P. The role of nuclear weapons in South Asia: policy, technologies, doctrines; Anichkina, T. Russian experts on the possibility of involving China in the multilateral nuclear arms control negotiations; Chizhov, D. Prospects of engaging India and Pakistan in nuclear arms limitation.

## Transition to multilateral nuclear disarmament: issues and options. Abstracts

Alexei ARBATOV

1.1. Regrettably, at present the negotiations between the USA and Russia on nuclear disarmament are at an impasse. But even under these conditions, one needs to seek common ground in the field of nuclear disarmament. Expanding the circle of participants in the negotiating process, which cannot remain indefinitely bilateral, is one of the tasks. Over 20 years after the end of the Cold War, the world nuclear arsenals have been reduced by almost an order of magnitude (by 9-10 times), mainly through mutual or unilateral reductions of nuclear weapons (NW) of the USA and Russia.

1.2. Just appeals or political pressure originating from Russia and the USA are unlikely to be sufficient to move forward to multilateral nuclear disarmament in an increasingly polycentric world with growing independence of other global and regional power centres. Without accounting for the real interests of other nuclear weapons states (NWSs), various mechanical schemes of their inclusion in the negotiating process will not work, no matter how comfortable and slim such schemes might seem to Moscow or Washington.

1.3. Other members of the ‘nuclear club’ have stubbornly and invariably responded to the appeals of the two major nuclear powers to join the nuclear disarmament process, by arguing that ‘the Big Two’ should first reduce their nuclear stockpiles to a level closer to the nuclear weapons arsenals of other countries.

And, by definition, they mean total nuclear arsenals and not just strategic offensive arms (SOA) that Russia and the United States have limited under the New START with the ceiling of 1550 warheads each by 2018. The other nuclear weapons states have very few or none of such arms. Therefore, they insist on further reductions of the nuclear forces of Russia and the USA, at least by 10 times – to the level of a few hundred units.

It is hard to believe that the two nuclear superpowers would find it acceptable.

Both sides refer to Art. VI of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), but their positions remain political rhetorics rather than a basis for practical negotiations.

Let us consider thisissue in two aspects: political and military-strategic.

**2.1. Political aspect.** Policy considerations call into question the idea of an 'inclusion' of 'third' NWSs into the nuclear disarmament negotiations – either all of them or according to some formal criteria: the European 'Two', the 'Five NPT NWSs', the 'Four NPT outsiders'. The crux of the matter is that the military and political relations between Russia and the United States, on the one hand, and 'third' nuclear armed states, on the other, are too diverse to solve the problem in such a simple manner.

2.2. Russia's relations in the nuclear field with Britain and France, as members of NATO, are determined by the interaction of Russia with the USA. The two European states have substantially reduced their nuclear forces and are planning further reductions in the foreseeable future. These states do not pose a serious independent and additional nuclear threat to the RF. They do not exert considerable influence on the anticipated military balance at least as long as the strategic nuclear forces (SNF) of Russia and the USA do not exceed the level of one thousand units (warheads).

2.3. India is a traditional close friend, and Israel is a relatively recent partner of Russia. For the USA, Israel is a long time trusted ally, and India is its new partner. Their inclusion in the nuclear disarmament process is theoretically desirable both for Russia and the USA, but from the security point of view it is not an important or urgent task.

2.4. Russia's major concern should be its relations with Pakistan and North Korea, which may be dramatically destabilized in the case of radical changes in the domestic situation and external policies of these states, which can occur independent of Russian wishes. Iran is even less predictable if it passes the 'nuclear threshold' provoking a war in the region and/or a chain reaction of further nuclear and missile proliferation, close to the Russian border.

2.5. These states should not be put in any way on a par with China – a new superpower of the XXI century. Russia has developed strategic partnerships with China. But one cannot rule out sharp turns in Chinese domestic and foreign policies.

China's economic and military potential is expanding. China is the only world power, capable of building-up its nuclear-missile capability and catching up with Russia and the USA in the course of 10-15 years, thus radically changing the global strategic picture of the world and directly affecting security interests of the RF, US and neighbouring countries.

2.6. Therefore, limiting nuclear armaments of China and Pakistan, and even better – nuclear disarmament of Pakistan and North Korea, as well as preventing Iran from acquiring nuclear weapons would, of course, correspond to the most important security interests of Russia.

Interestingly, it basically coincides with the priorities of the USA, although this fact has not become the point of public and political attention in the two countries. But in any case, an appropriate format and time are needed to achieve these goals.

**3.1. Strategic balances.** Mindful of the fact that the 'third' nuclear armed states fundamentally oppose any attempts to be combined in one or two groups for comparison with the nuclear forces of each of the two superpowers, it would still be appropriate to break the 'Nuclear Nine' at least into three groups (for the convenience of assessments of the military balance). Firstly, the nuclear superpowers: Russia and the United States. Secondly, the 'Three' of the remaining NPT nuclear weapons states and permanent members of the UN Security Council: Great Britain, France, and China. And thirdly, 'Four NPT outsiders': India, Israel, Pakistan and North Korea.

At that one need to consider comparable classes of nuclear weapons across the states, not their aggregate numbers with the US and Russian SOA limited by the New START.

3.2. Thus, the number of nuclear warheads of the 'Three' and the 'Four' (rather their expert estimates) should be compared with the number of all nuclear arms of Russia and the USA and not only with their strategic nuclear forces. (Only Great Britain and France publish open information about their nuclear forces.) The nuclear arsenals include strategic and sub-strategic (tactical) nuclear arms, both deployed and in storage in various modes of technical condition and maintenance.

The comparison of nuclear forces of any nuclear superpower with the total number of the 'Three' and 'Two' nuclear weapons

still looks extremely asymmetric in favour of the Russian Federation and the United States.

The main uncertainty is related to the assessment of China's nuclear forces, because the purpose of the huge protected underground tunnels constructed by the Second Artillery (the analogue of the Russian Strategic Rocket Forces) is not clear. If the tunnels hide mobile intermediate-range and intercontinental missiles, their number could reach many hundreds and the number of warheads – thousands units. They are hidden in the tunnels total length of about five thousand kilometres.

3.3. Since more often only the strategic forces of the 'Big Two' are compared with the nuclear means of the 'Three' and the 'Four', it would be correct to isolate their arms which fall within the category of the strategic armaments that are the subject of the New START. Then the ratio would be even more in favour of the Russian Federation and the United States.

3.4. Often, the intermediate-and shorter-range missiles, which the US and Soviet Union eliminated under the 1987 INF Treaty, are mentioned as a subject matter for expanding the format of negotiations.

In 2007, Russia and the USA went so far as to jointly call for all the other countries to join the INF Treaty. It is understandable that NNWSs immediately rejected the initiative as inequitable. But even if we talk only about the countries with nuclear missiles, and combine systems subject to the INF Treaty and strategic nuclear forces, then the ratio of the arsenals of the Russian Federation, United States, groups of 'Three' and 'Four' still would be substantially in favour of the 'Big Two'.

3.5. Thus, despite the desirability of limiting and reducing nuclear weapons of the third countries, in terms of the military balance in comparable categories, even after the implementation of the New START, Russia and the US will retain a huge advantage over the nuclear forces of other nuclear-armed states. And this is true for all of the latter taken together, or in groups, or even more so – individually.

In addition, the balance of forces is such that until (and during) at least the next decade, from a military point of view (as opposed to a political one) there is no explicit obligation or urgency to include third nuclear weapons states into the process of nuclear arms limitation. This applies not only to the situation after the

implementation of the current START Treaty, but even to a hypothetical situation following the conclusion of the next treaty after 2020, that will limit the strategic nuclear forces of the two major nuclear powers to a level of about 1000 warheads. (The possibility of such an arrangement taking into account differences on BMD, precision conventional weapons, tactical nuclear weapons is a separate issue.)

3.6. An even more important point is that serious negotiations and agreements to limit nuclear arms involve more than just formal accession to general UN disarmament resolutions or to Art. VI of the NPT, and constitute a most critical element of military and strategic relations between the states. To make possible arms limitation agreements states have to share such strategic relations. (For example, relations of mutual nuclear deterrence, as between the USA and Russia, and before between the USA and Soviet Union.) Then one state may limit its armed forces and weapons programs in exchange for similar actions of the other state – in an agreed proportion and procedure according to treaty provisions. This is the essence of practical negotiations on the limitation and reduction of armaments.

One should not forget that third nuclear weapons states are not just marginal participants of the global nuclear balance. Like the Soviet Union/Russia and the United States each nuclear weapons state pursues its own goals: deterrence of nuclear or conventional aggression; international status and prestige; opportunity to exert military-political pressure on opponents; 'trump cards' in negotiations on other topics, etc.

Some nuclear armed states maintain relations of more or less symmetric mutual nuclear deterrence which, other things being equal, creates optimal conditions for negotiations. Others have asymmetrical relations of deterrence, when one side enjoys superiority, which makes it more difficult for both to come to an agreement. Still others are capable (in theory) to deliver nuclear strikes against each other, but mutual deterrence for political reasons is in the background of their relationship and is of a latent nature, that does not create sufficient incentive to negotiate. Finally, there are nuclear armed states that do not maintain relations of mutual deterrence for military-technical or political reasons.

3.7. Britain and France are within the reach of each other's nuclear weapons, but there is no mutual nuclear deterrence between

them. They do not have a subject for negotiations on mutual limitation of nuclear forces. The same is true for their relations with the USA as they are all NATO allies.

3.8. By the same logic, there is no basis for the negotiations on mutual nuclear arms limitation between China, on the one hand, and France and Great Britain, on the other: they are beyond the reach of each other weapons and do not maintain relations of nuclear deterrence. The size and characteristics of Beijing's nuclear arsenal have no relation to the forces and programs of Paris and London, and between them there is no basis for an agreement on mutual arms limitation, even though they belong to the five NPT NWSs.

3.9. Mutual nuclear deterrence is absent, for political or military-technical reasons, from the relations of the USA, France and Britain with Israel, India and Pakistan. The highly asymmetric nuclear deterrence between the USA and North Korea leaves no hope for mutual arms control (except for the concept of a nuclear-weapon-free zone on the Korean Peninsula). Nuclear deterrence is not prominent in the strategic relationship between Russia and India, while in Russia's relations with Israel, Pakistan and North Korea the situation is not clear. Although nuclear deterrence may be present here 'behind the scenes' (latently), it hardly creates any tangible subject of negotiations on mutual arms control.

Similarly, China has no interaction on the model of nuclear deterrence, with Israel, Pakistan and North Korea: the first one is out of reach of Chinese main nuclear weapons delivery systems, and the other two are factual or legal allies of Beijing.

3.10. In contrast to the above examples, the strategic relations of Great Britain and France with Russia are based on mutual nuclear deterrence. There exists a strategic framework for the negotiations, although it is highly asymmetric, and difficult to find.

3.11. Certainly, asymmetrical mutual nuclear deterrence is present in the relations between the USA and China (and also – latently between China and Russia). However, this triangle is not isosceles both in terms of levels of forces and political distance from each other. Moreover, while the availability of a subject of negotiations between the USA and Russia, or the USA and China is not in doubt (in strategic terms), the dialogue between Russia and China is a much more nebulous theme. In any case, it is doubtful

that such negotiations and agreements are possible in a trilateral format in the near future.

3.12. Thus, relations of mutual deterrence and negotiations between India and Pakistan and between India and China are possible and necessary in the future. But even here the relevance of a trilateral format is far from obvious in the strategic and military-technical aspects.

3.13. Finally, two implicit and unrecognized nuclear armed states on the opposite margins of Eurasia – Israel and North Korea, could hardly be formal participants in the disarmament negotiations with anyone. If their nuclear facilities once become a subject of agreements, it would likely occur within the framework of resolving security problems and questions involving conventional forces and settlement of political, economic, territorial and domestic issues. This implies a regional format and context of strengthening the NPT regime, rather than a traditional model of agreements on mutual nuclear arms limitation.

3.14. In general, as the nuclear balances of the third nuclear armed states are more deeply embedded in a regional context than the US and Russian strategic nuclear forces, prospects for limiting their nuclear weapons would largely depend on the resolution of territorial issues (as well as ethnic, religious and political problems) in the relations between India and Pakistan, China and India, China and Taiwan, countries of the Middle East as well as the situation on the Korean peninsula. Regional balances of power in the field of the general purpose forces in all these areas will to a much greater degree dominate the prospects for nuclear disarmament than in the case of the SALT/START negotiations between Russia/USSR and the USA.

In addition, given the relatively small size and lower-quality characteristics of the nuclear forces of the third NWSs, issues related to their adequacy and possible limitations are further complicated by the influence of actively developing systems of regional and global missile defences and long-range high-precision conventional weapons.

**4.1. Options for multilateral nuclear disarmament.** It should be mentioned that nuclear disarmament has already had some multilateral formats in the form of the treaties on non-proliferation of nuclear weapons, prohibition of their placement in the outer space, the CTBT, etc.

But the nuclear forces of the third NWSs have not so far been directly constrained. The transition from a bilateral nuclear disarmament to a multilateral format implies such constraints.

The above-mentioned difficulties do not mean that the expanding of the number of countries involved in the process of nuclear disarmament is impossible in principle, although it will be a much more difficult task than 40 years of negotiations between Moscow and Washington.

It seems that the availability of political will, the combined efforts of the two leading nuclear powers (as well as, of course, the continuation of their bilateral negotiations and agreements in this area) could, in principle, make the transition to multilateral nuclear disarmament possible.

However, this reformatting will not take the form of a model of the direct accession of the 'Two' (Great Britain and France), 'Three' (Great Britain, France and China) and 'Four' (Israel, India, Pakistan and North Korea) to the US-Russian negotiations.

4.2. Several forums of a bilateral format will be a more likely option in the foreseeable future (2020–2030):

- Great Britain / France – Russia;
- the USA – China;
- Russia – China (highly questionable);
- China – India (also difficult);
- India – Pakistan.

Some coordination between these forums would be a crowning achievement of the US and Russian diplomacies.

In a number of cases, the third NWSs will have to rely on technical verification means of Russia and the United States, or special international bodies (within the framework of the UN or IAEA).

**4.3. European powers.** All previous attempts of the USSR to 'combine' the strategic nuclear forces of the European states and the USA and limit them by a single ceiling were rejected by the West on the grounds that the British and French nuclear forces constitute national rather than collective deterrents. In the future, this position is unlikely to change[2]. A huge asymmetry in the SNF

[2] The first such attempt was made in the framework of the SALT-1 Agreement in 1972, and then in the negotiations on the SALT-2 at the end of the 1970s, and in the 1987 INF Treaty.

of the parties will impede separate negotiations between Russia and the two European states.

Willingness of Britain and France to accept at least some measures of confidence building, transparency and inspection of the New START 'menu' would have a significant positive value as a precedent and an example for other countries, especially China. But the two European states probably would not agree to treat such measures as a legally binding limitation of their nuclear arms (even according to the unilateral adoption of relevant modernization programs), since it may be perceived as the acknowledgement of the Russian nuclear superiority.

Regarding the commitment of Great Britain and France not to build up their nuclear forces, Russia's agreement to negotiate on tactical nuclear weapons (TNW) could be a significant additional argument to interest the USA and NATO.

**4.4. China.** China is very likely to be progressively involved in the nuclear arms limitation process. But wishful thinking about expanding the number of participants in nuclear arms control would hardly play any role in this process. China's involvement is possible only on a purely pragmatic basis. It will occur, if Beijing comes to the conclusion that Chinese concessions in the field of transparency and arms limitations are being recouped by US concessions (and, by default, Russian ones) on the issues of interest to Beijing.

China sets out many conditions, but the real prerequisite of its consent to nuclear arms control negotiations is apparently the recognition by the United States (and implicitly by Russia) of China's right to possess a nuclear deterrence capability in relation to the two nuclear superpowers, despite the lack of the strategic parity with them. This condition implies a commitment of the two major nuclear powers not to try to weaken the Chinese deterrence capability through offensive means (nuclear and conventional) and defensive systems (the US missile defences in the Pacific and the Russian Aerospace Defences east of the Urals).

It would be difficult for the USA to agree to the Chinese conditions in the light of its security obligations involving American allies and partners (Japan, South Korea, and Taiwan). For Russia, it would not be easy either because of the growing gap between the RF and PRC in the number of conventional forces in Siberia and the Far East.

Thus, China's involvement in the nuclear arms limitation process implies not only modifications of the Chinese course but also a substantial revision of the American and Russian military policies.

Real prerequisites of China's consent to a phased opening of its strategic armaments and to their limitation (or at least restriction) may include:

- the US obligation not to build up sea and land-based BMD in the Pacific Ocean;

- a joint US-Russian obligation that, in case of an agreement between them on cooperation in the field of BMD development within the framework of individual projects (for example, the data exchange from their missile launches warning systems), China may participate in the arrangement (in a way acceptable to the PRC);

- the transition of Russia and the USA to negotiations on a new START, including the elimination of strategic carriers, limitation of high-precision conventional weapons and boost-glide systems (which is also of interest to Russia);

- progress in the US-Russian non-strategic nuclear arms control which would make it possible to address the issue of transparancy and limitation of Chinese intermediate- and shorter-range systems;

- rejection of the NATO proposal toredeploy Russian non-strategic weapons to the eastern part of the country.

A bilateral dialogue between the USA and China is a most probable format of negotiations (in parallel with the US-Russian negotiations on START and alongside with regular strategic consultations between Russia and China). A trilateral format is possible (on cooperation in the BMD area, for example, data exchanges between the early warning systems.)

**4.5. South Asia.** Rough parity and uniformity of the nuclear forces of India and Pakistan (as far as delivery vehicles and warheads are concerned), as well as the practice of separate storage of vehicles and warheads constitute strategic and technical prerequisites for classical agreements on nuclear arms limitation and confidence-building measures, at least in relation to the systems of intermediate-and shorter-range missiles on the type of the 1987 INF Treaty.

Sharp political tensions between the two states (territorial disputes, terrorism), Indian superiority in conventional forces, and

in the long term – in the field of missile defences constitute obstacles to such an agreement.

If with the help of the major states and the United Nations these obstacles are removed, South Asia could become another example of the transition of nuclear arms control to a multilateral format, though not through India's 'accession' to the US-Russian negotiations but by means of constituting a separate regional forum.

A parallel dialogue between Russia and the USA on the next START treaty, cooperation between them in the BMD area, the commencement of a dialogue on tactical nuclear weapons in parallel with the US-Chinese negotiations can significantly contribute to arms control process in South Asia.

These initiatives could also stimulate the dialogue in the Middle East and on the Korean Peninsula within the regional frameworks and in the context of strengthening the NPT regime.

**Nuclear disarmament negotiations require a powerful initiating momentum**

Alexander KALYADINE

Academician Arbatov's presentation has focused on practical solutions to the most complex, intractable problems of transition to multilateral nuclear disarmament. He has outlined the perspective of advancing this process.

In this respect, the presentation contrasts favourably with statements made by some experts, politicians and officials who usually limit themselves to a long list of preconditions and various linkages of nuclear arms reduction with the solution of other international security issues so that multilateral nuclear disarmament looks like an unattainable goal, an utopia, as something being far off from the current international security agenda.

In doing so, they unwittingly fall into the trap set by evil-wishers for whom Russia is an object of discrediting and demonizing and who try to depict Russia as a state that seeks to continue indefinitely to base its security policy on retaining nuclear missile capability and is uninterested in radical reductions of nuclear arms.

Of course, in considering the transition to multilateral nuclear disarmament one cannot ignore contradictory processes persisting in the field of national, regional and global security, and, in particular, growth of international instability. Obviously, in an unpredictable and turbulent world, under the conditions of major global risks, strategic uncertainty and international instability it is difficult to anticipate a dramatic breakthrough in the field of multilateral nuclear disarmament.

General nuclear disarmament, as well as complete and unconditional prohibition of nuclear weapons, is a long-term goal that requires an entirely different international environment and well-functioning system of global security. One cannot also disregard the inertia of the prevailing negative attitudes towards international disarmament.

In recent years, the international community has been facing massive geopolitical shocks that destabilizes international relations and deepens the crisis of global governance. If this trend gains strength, radical nuclear disarmament can become a more distant prospect.

On the other hand, the factors that prioritize the goal of radical nuclear disarmament and require understanding and awareness of its importance from the international community continue to operate. Among them, for example, the danger of nuclear weapons use to the very existence of the humankind, the need to prevent WMD proliferation and to reduce the financial burden of maintaining a nuclear arsenal, etc.

The issues regarding radical reductions in nuclear weapons and various solutions are put on the agenda of various international forums.

The following two factors will contribute to the growing relevance of such issues.

In 2012, a new cycle of the NPT review process started. The Eighth NPT Review Conference is to be held in 2015. The first session of its Preparatory Committee was held in 2012. (The second one was held in 2013). The discussions demonstrated that the non-nuclear weapon states (NNWS) are intensifying demands that NWSs fully implement their obligations assumed under Art. VI of the NPT, and undertake further major practical steps to reduce their nuclear arsenals, and contemplate specific schedules for phased nuclear disarmament.

Another important development: the growing activities of various national and international anti-nuclear movements and non-government organizations (NGO), including movements of scientists, physicians, environmentalists and other professionals for nuclear disarmament and prevention of nuclear catastrophe, for the so-called 'nuclear zero' (elimination of all stockpiled nuclear weapons), for the conclusion of a global convention on the complete prohibition of nuclear weapons, etc.

The international public opinion voiced its support for such ideas and proposals as the signing of the global convention on the complete ban of nuclear weapons, the 'Disarmament Plan' of the UN Secretary General Ban Ki–moon, proposals on timetables for nuclear disarmament and on the advancement towards a world free from nuclear weapons.

It would be imprudent to dismiss these developments and underestimate the potential of the international anti-nuclear movements, the role of non-governmental organizations and their capacity to influence world public opinion and multilateral diplomacy. Statesmen and politicians, who will ignore the mood developing in the international public opinion, risk suffering serious reputation losses.

In particular, it may happen that increased international pressure on Russia to reduce its nuclear arsenal will be one of the derivatives of the expansion of international support for the idea of 'a nuclear zero'.

Therefore we need to offer alternative global plans of radical multilateral nuclear disarmament which will steer international discussions along realistic lines consistent with the Russian security interests.

In an increasingly polycentric world, Russia will have to ensure its security, with greater emphasis on deepening cooperation with other responsible members of the international community, including through the UN institutions.

This will require a serious effort on the part of the Russian diplomacy and expert community to elaborate practical recommendations on how to advance on the path of international arms limitation and reduction, stabilize the WMD non-proliferation regimes, settle regional conflicts and strengthen multilateral security mechanisms. It is important to take advantage of opportunities for strengthening international security and strategic stability through

effective use of multilateral legal and political security instruments and improvements of arms control regimes and conclusion of new agreements in this field.

Progress along these lines will give Russia a chance to avoid costly investments to defence planning. Without prejudice to its military security, Russia will be able to spend more money to obtain necessary means of 'soft power' (science, education and culture, strong social and demographic policy, decent way of life, etc.), thereby increasing its status in the world and its role in world affairs as well as strengthening its position in competition with other world centres.

Russia should take the lead in working out arrangements within the framework of the UN Security Council to strengthen its mechanisms to respond to the threats posed by arms race, WMD proliferation and international terrorism.

In particular, it would be desirable to offer the world community a detailed road map towards general nuclear disarmament and a safer world without nuclear weapons. It might map out guidelines, milestones and stages of this process. The road map should not only contain a set of logically linked measures, but also the roles and specific contribution expected from each NWS, as well as a means of maintaining global security / international order corresponding to the depth of the disarmament process, including reliable guarantees of enforcing disarmament through the facilities of the UN Security Council.

Nuclear disarmament negotiations require a powerful momentum. Russia might promote an idea of convening a world summit devoted to the issues of multilateral nuclear disarmament and improving the manageability of military-political processes. The world summit should be designed to focus the international security agenda around concrete practical arms control measures (including nuclear disarmament initiatives). This would be in the security interests both of Russia and the world community as a whole.

## Multilateral nuclear arms regulation in terms of 'game theory'

Sergey AFONTSEV

Although nuclear disarmament issues are far enough from my immediate scientific interests, I would like to comment on some of them applying scientific tools which Academician Arbatov used implicitly in his presentation and which may be helpful from the theoretical and methodological point of view in addressing the topic. I mean the instruments used by modern game theory. Application of these tools in the 1960s revolutionized the study of problems related to arms race and arms control.

One could mention the works of Thomas Schelling, who received in 2005 a Nobel Prize in Economics (shared with Robert Aumann) for his contribution to the study of conflicts and cooperation by means of the game theory. Since the publication of Schelling's pioneering works 'The Strategy of the Conflict' (1960) and 'Strategy and Arms Control' (1961, co-authored with Morton Halperin), thousands (probably tens of thousands) papers on the use of appropriate tools to study the problems of disarmament, including nuclear disarmament, have been published.

The general logic of the game theory approach to this sphere is to consider motives and sequences of steps taken by the participants of international interaction. This interaction is modelled in terms of gaming: each participant seeks to achieve best results for oneself, taking into account steps of the opponents and allies in the past and present, as well as their expected responses to his own possible actions in future.

Such behaviour in the game theory is called strategic: the players calculate potential moves of other participants and decide on their own courses of action in such a way as to maximize the goal function that reflects their interests.

When it comes to disarmament research the goal function is the security function, and the principle of strategic behaviour requires the 'players' to be mindful of what would be the response of other participants of the 'game' to their proposed measures or actions.

One of the key concepts in game theory traditionally popular for the analysis of arms control is the Nash equilibrium (John Nash is another winner of the Nobel Prize in Economics in 1994 for his

achievements in the field of game theory). This concept describes a situation when none of the participants of the game knowing the possible strategies of the other players has any incentive to change his/her own behaviour.

Nash equilibrium can be 'effective' or 'ineffective' (more accurately – 'optimal' or 'suboptimal') from the point of view of a group of players as a whole and of each player individually, but as soon as the equilibrium is reached, the players' strategies corresponding to the terms of the equilibrium are 'locked in' in the sense that, other things being equal, none of the players is willing to change anything.

To move the system to a new equilibrium one needs to change certain parameters of the interaction itself. For example, to change external conditions, rules of engagement, composition and goals of the participants, the amount of available resources and information. If all listed factors remain unchanged, the equilibrium outcome of the game will remain unchanged.

In this light the table referred to in the presentation which describe the strategic positions of the members of the 'nuclear club' is of fundamental importance. The table clearly shows that in terms of the game theory interaction, the international community is now at the Nash equilibrium point. In other words, all the players have exhausted strategic moves available to them to maximize their security function considering anticipated moves of the allies and opponents. In these circumstances new appeals and initiatives originating from the expert community cannot by themselves change anything, as the players simply have no incentive to change anything.

How can one modify this stable equilibrium? First, by changing comparative positions of the players with regard to resources. For example, if in the coming years China wishes or is able to significantly increase its nuclear capability, one may talk about the conditions for the transition to a model of strategic interaction relevant to the situation of nuclear parity. Of course, this development may be undesirable for many members of the 'nuclear club' (primarily, for the United States and India), but they would have to adapt their own behaviour models to the changing realities.

Regionally, any change in the relative size of Indian or Pakistani nuclear weapons stockpiles – with obvious implications in

terms of increased tensions between the two countries – would have significant consequences.

Second, the make-up of the 'nuclear club' may change. Under the current conditions, the chances that any of the NWSs will voluntarily give up its nuclear status, following the example of South Africa after the fall of the apartheid regime, are zero. But a higher probability of the expansion of the 'nuclear club' in the medium term may have a noticeable impact on the strategies of the key players.

The change of the strategies may be caused not only by the actual emergence of new nuclear armed states, but also by the growing probability of the spread of nuclear weapons.

Most acute, of course, is the problem related to the realization of the Iranian nuclear program. Potential transformation of the IRI into a NWS may influence not only the strategic behaviour of its nearest neighbour and enemy – Israel, but also the policy of its nuclear allies as well as behaviour of other countries that are actually (or potentially) within the range of Iranian nuclear missiles.

Third, the goal functions of the members of the 'nuclear club' may change. The changes can occur both exogenously and endogenously. The nature of exogenous changes can be traced to the collapse of the former Soviet Union when the newly independent republics voluntarily handed to the Russia the Soviet nuclear assets. But endogenous changes related to goal functions are much more interesting. To understand the corresponding changes it is necessary to resort to the theory of political markets.

This theory can be applied to a variety of academic disciplines. In economics it is a public choice theory which two founders – James Buchanan and Gary Becker – won a Nobel Prize. Within the framework of political sciences, problems related to the functioning of political markets are dealt with by the rational choice theory, while in the world politics science – by international political economy.

The theory of political markets focuses on the market nature of the interaction between political actors. It means that in the analyses of the policy-making processes, participants of this process are divided into two groups.

The first is actors that create a demand for appropriate solutions. The second – entities that offer solutions. A market type

exchanges take place between these actors in order to arrive at the right solution. In fact, it is an example of application of the principle of economic imperialism, when the methodology of economic science is used to analyse non-economic phenomena –in this case political ones.

From the point of view of this theory, a country policy on a particular issue is a result of complex interaction of players on the national political market among themselves as well as with the entities that operate on the level of regional and global political markets. The subjects of political decision-making at the national level maximize their goal functions, while specific conditions for achieving their goals affect the comparative importance they assign to this or that national policy priority.

Accordingly, the priorities related to the possession of nuclear weapons can vary significantly depending on what benefits a subject of political decision making expects from other actors through intensification of its nuclear programs or, conversely, in exchange for its partial or complete renunciation.

In the last decade a significant correction of priorities has occurred. In the 1990's a model of voluntary renunciation of nuclear arms in exchange for international assistance and investments (Ukraine, Belarus, Kazakhstan, and South Africa) was popular.

However, in the light of the depressing example of Libya this strategy lost its appeal. (After having renounced its nuclear program in 2003, Libya became an example of foreign armed intervention into domestic political conflict). To date, the core game strategy of the potential members of the 'nuclear club' (Iran, North Korea) is based on the principle of 'a partial slow-down of the nuclear program in exchange for easing of sanctions'.

Finally, the transition to a new equilibrium in the nuclear armed states interaction can be achieved by changing the 'rules of the game' in the international arena, as Academician Arbatov said in the second part of his presentation. How can we change the rules of the game? Again, the answer is given by the theory of political markets, which allows us to formulate an algorithm of making recommendations to institutional changes at the national and international levels. This algorithm is based on the fact that any proposals attractive from the point of view of the 'national interest' or 'the interests of the international community' have no chance of

implementation, if they do not have the support of influential actors of political markets. One can find confirmation of this observation almost everywhere. In the economic sphere, the classic example is the postponement of urgent anti-crisis measures, due to the desire of political parties to pass on the responsibility for unpopular reforms to the opposing party (what we see in the last two years in the USA and EU). In the field of international security, the problem is no less relevant.

The expert community is offering a good number of ideas and proposals (including those voiced in the current discussion, for example, the idea of a 'global zero'), which from the theory of political markets perspective are not viable, since they do not correspond to the interests of the leading actors of political markets.

This, of course, does not mean that the relevant ideas and proposals do not deserve discussion. Moreover, in the long term, they can influence goals of the actors of political markets and even lead to the emergence of new actors, advocating appropriate priorities (as happened with environmental non-governmental organizations and 'green' parties in the developed countries). However, the potential of such changes is not limitless, and in some areas of international cooperation – it is minimal. Even if it turns out that the majority of the representatives of the expert and scientific community will really be interested in nuclear disarmament, the leading international actors are not ready to take this step today. Therefore, the elaboration of the proposals and ways to implement them, strictly speaking, is devoid of practical meaning.

From the point of view of the theory of political markets, it makes sense to offer such recommendations, which are the most efficient among the politically acceptable. If we define the range of politically acceptable recommendations for the management of nuclear arsenals and select the ones that are in the best interests of international security, there is a chance that these recommendations will be implemented.

Combining analytical approaches specific to the theory of political markets and game theory can make a significant contribution to the working-out of appropriate recommendations.

The search of intergeted strategies which link issues of nuclear disarmament to the questions of cooperation in the non-

nuclear sphere seems to be the most promising direction for the elaboration of new 'rules of the game'.

Of interest is the proposal on an information exchange mentioned in the debate, because the game with open information leads to other, potentially more effective results than a game under the conditions when communication between the players is missing. This is a promising direction of research which could be jointly explored not only by political scientists and experts in international security but also by representatives of other scientific disciplines.

## Robust interdisciplinary research is required

Alexander RADCHUK

Academician Arbatov's presentation offers answers to a number of questions related to further steps towards nuclear disarmament. It also addresses new challenges. Some points are, in my opinion, debatable.

First, one can hardly agree with the thesis characterizing the current negotiations between Russia and the USA on nuclear disarmament as being 'at a deadlock'. What we observe today is rather a 'strategic pause' which came after the signing of the 2010 Prague Treaty.

Appeals of some experts to reach an early 'nuclear zero', as well as the US Senate resolution on the immediate start of a new round of the Russian-US talks on nuclear arms reduction cannot serve a valid ground for the resumption of the negotiation process both in bilateral and multilateral formats.

Only an adequate level of national security, military and strategic expediency and economic benefits of reducing nuclear forces constitute such a basis.

However, arguments for accelerating the START process are clearly not in sight in circumstances when the main emphasis in the military balance is made on conventional arms, first of all, on precision-guided weapons, while nuclear weapons are increasingly accepted as a means of deterrence of large-scale military threats.

At the same time, the need to work out an ideology and methodology to push forward the nuclear arms limitation process is quite obvious.

Academician Arbatov suggests an interesting approach to assessing the strategic relationship as a kind of a table of 'nuclear championship'. Today, however, it is impossible to narrow the problem of strategic relations between NWSs down to only nuclear parity and to consider the balance of forces only in terms of nuclear weapons. It is necessary to take into account all the parameters of military power: nuclear and conventional arms, including high-precision weapons, defensive systems, and infrastructure. Also of importance are parameters of 'soft power', which can compensate for the lack of military capability.

Nuclear weapons were the only way of countering threats at the time when the Soviet Union and US were ideological opponents-antagonists, ready to incur what so ever costs. Hence the willingness to resort to the use of nuclear weapons and reliance on mutual assured destruction.

We have moved to some other mode of relations. Officially, for more than 20 years we have no longer been talking about mutual nuclear deterrence. Our doctrinal documents are focusing on strategic deterrence of probable threats and maintaining capability (in a certain degree of readiness) of nuclear deterrence.

Once nuclear weapons are produced, they immediately become a latent deterrent, even without any formal declaration about the use of nuclear armament.

Nuclear weapons as a complex military organizational and technical system have inertia, a very long cycle of change. The political environment is changing much faster. Today a threat may not exist but tomorrow it will appear.

Strategic relationships between countries do not evolve just as a result of a competition in one sport. They are being formed as a result of 'Olympic' competition in various sports. The problem does not have an easy decision. It was rightly indicated that the solution requires fundamental interdisciplinary research.

Another very important point relates to the accuracy of the information used in the evaluation of strategic balances. Information providers also play their games. Memoirs of politicians, both losers and winners are always subjective, though for different reasons. This point should be taken into consideration.

## Complex and controversial task

Vladimir BARANOVSKY

We have addressed a wide range of issues, a whole number of problems that need to be analysed further. Instead of summarizing our discussion I will focus on a few points.

In fact, we face a huge range of issues. They inevitably arise in any serious discussion of important topics related to the multilateral nuclear disarmament – for example, security challenges, and within this topic – disarmament issues, and even more precise – nuclear disarmament. And when we intend to examine the strategic relationship between the two countries, we need to isolate precisely those segments of the relationship (to assist analysts and policymakers), where it is possible to achieve some positive results in practice.

In other words, some specific proposals and initiatives are needed to be implemented in practice. Experts should identify the possibility of such solutions in a huge field, which is formed by interrelationships of states in the international system; the interrelationships that reveal a great number of dimensions. And many of them interact with or influence each other.

We see and feel it very well. It is one of the competitive advantages of our Institute that we are in a position (at least we try) to bring together different perspectives and challenging topics, reduce them to some common denominator to determine some resulting output from the impact of different and often conflicting factors. This is what is done in the IMEMO publications, forecasts and analyses of the polycentric international system.

How to deal with the challenge of multilateral nuclear disarmament, what can be done practically to obtain some positive results?

It would be easy to argue that the idea (general nuclear disarmament) is good in theory, but it is pointless to take it up because it is too complicated since the states involved in this issue have conflicting interests and are guided by different motives and, in general, each country has its own understanding of the need of nuclear weapons and it is very difficult to reduce all this to common denominators. It is hard to do because the world has changed. (Here involuntarily one recalls the blessed times of the Cold War and the

rigid bipolar confrontation, when everything was simpler and clearer.) For example, it could have been comfortable enough to operationalize the issue of strategic arms in respect to the relations between the USSR and the USA. But today it is not so simple.

The problem becomes even more complicated when you try to add China to this equation. And it is simply impossible to ignore this factor because of various factors. The same applies to the possibility of engaging other NWSs in the nuclear arms limitation process, not to mention other players of international relations in a broader sense, not just NWSs.

Academician Arbatov has offered certain recipes which could be used to move forward nuclear disarmament (and international arms control, in general). And some approaches have been suggested that could smooth moving in this direction (the Chinese issue, Russian-US-Chinese triangle arrangement or the Indian-Pakistani settlement).

It seems to me that by addressing each given situation along the suggested lines, one can try to formulate guidelines for the stabilization of the two different policy configurations: Russia-US-China and India-Pakistan-China.

The roadmap of multilateral nuclear disarmament, mentioned during the discussion, should emerge as a result of the analyses of very specific problems, of specific matters, tailored to the interests and motivation of the states, their security situations and requirements.

Thus, the theme that we discussed is far from being closed. On the contrary, the closer we look the more complex and puzzling it becomes.

## 2. USA: REGIONAL COOPERATION ON BMD

Natalia ROMASHKINA

Modern global military and political environment is characterized by rapid proliferation of ballistic missiles (BMs) across the world. The number of states that possess such weapons in various modifications has increased to dozens. These countries seek to enhance responsiveness, mobility, survivability, and accuracy of their missile systems and extend their operational range. Several states implement measures to protect launching systems, develop BMD penetration aids, and create nuclear, chemical and biological warheads for their missiles.

These development programs can play a significant military role in regional conflicts. They also play a role during peacetime – in diplomacy and international relations. Therefore, the BM threat is likely to increase over the next decade.

The number of states seeking to acquire BMD systems will increase correspondingly. (Table 1 lists most significant BMD systems in various countries.)

The USA seeks to counter the challenges posed by BM proliferation by creating a global layered BMD system. Apart from protecting its own territory against missile attacks, it considers the defence of its forces abroad, as well as of its allies and partners against regional missile threats as an important national interest.

Over the last decade the USA has reached significant improvement in the development and deployment of regional technical BMD capabilities against SRBMs and IRBMs, as well as against limited number of ICBMs. However, the Pentagon considers these capabilities insufficient in the context of expanding regional missile threats.

Defending against regional missile threats involves much shorter flight times and thus necessitates a highly agile BMD system and responsive command and control facilities. Because of the large and increasing numbers of SRBMs and MRBMs, any regional BMD capabilities should be produced and fielded in sufficient quantity to deter and defend against those threats.

The deployment of BMD capabilities in the near-term (till 2015) and long-term perspective is one of the most important tasks. Most attention is paid to the further increase of the quantity of these systems with the preservation of low level of technological risk. As a part of the solution the Pentagon seeks to increase procurement of proven systems such as THAAD (Terminal High Altitude Area Defense), SM-3 interceptor, and AN/TPY-2 radar.

Further improvement of technology is the second part of the solution. At the moment, the SM-3 interceptor is launched only from sea platforms. In the 2015 time-frame, a relocatable land-based SM-3 system tentatively called Aegis Ashore will be available making it possible to provide a better regional coverage by virtue of its ability to be placed inland. It is hoped that these land-based interceptors will be able to provide reliable coverage of the areas they are designed to protect and become an important element of a future regional BMD against IRBMs.

The Pentagon will also seek to continue to improve SM-3 interceptor capability. By 2015 a more capable SM-3 Block IB may be available with an improved seeker capability for greater on-board discrimination and greater area coverage. This interceptor is to be deployed both at sea and on land with the Aegis Ashore system. The coverage area is to be increased by developing the technology to launch SM-3 in response to remote sensor data. Once this capability is fully developed, the interceptors – no longer constrained by the range of the Aegis radar to detect an incoming missile – will be able to be launched sooner and therefore fly further in order to defeat an incoming target.

The development of the Command and Control, Battle Management, and Communications (C2BMC) Program, an overarching command and control system, that brings together information from various sensors, provides planning capability for BMD operations, and makes available situational awareness for all levels of decision making is being continued.

The incorporation of current and future sensor systems that support BMD and such weapon systems as THAAD, Patriot, SM-3 modifications, and GBI in the structure is provided. It will allow meeting specific goals of different regions and will be interoperable with systems the US may develop with allies and partners. For the defence of the homeland a global picture that incorporates all aspects of the BMD architecture and reflects necessary features of its functioning will be available.

The airborne infrared sensor should be a final capability intended for development in the 2015 time frame. The goal of this program is to be able to simultaneously detect and track many ballistic missiles from unmanned aerial vehicles. These distributed airborne platforms are expected to add significant depth to regional missile defences.

The Missile Defense Agency is now elaborating a concept called 'Early Intercept' (EI) and examining feasibility of intercepting missiles early in their flight using currently planned interceptors and sensors. Instead of relying on larger and faster boosters the early interception is to be achieved by reducing the time associated with early sensor tracking and rapidly developing launch-control solutions so that regular interceptors could defeat BM targets much earlier in the flight. The concept provides an additional opportunity for re-shooting the target.

Toward the end of the decade, more capable interceptors and sensors are believed to become available. The SM-3 Block IIA will have a higher burn-out velocity and a more advanced guidance system. These features may make it much more capable than the SM-3 Block IA or IB and provide greater regional coverage.

A follow-on interceptor-missile, the SM-3 Block IIB, is in the initial phase of technology assessment and development. It is expected to be even more capable than the Block IIA. With a higher burn-out velocity and greater divert capability, the SM-3 Block IIB may have some early-intercept capability against a long-range missile. Matched against regional SRBMs, MRBMs, and IRBMs, the SM-3 IIB is expected to defend a greater area than the SM-3 IIA.

Additional investments are allotted on development of 'Engage on Remote' technology in the long term that includes not only launching on receiving data from a remote sensor track but

also the ability to uplink data from assets other than the Aegis radar allowing the interceptor to defeat a BM target at greater distances.

A further long-term effort involves the development of reliable space-based sensors to detect and track large numbers of attacking ballistic missiles over their entire flight trajectories. Such ability would greatly reduce the need for terrestrial sensors and the size of deployable BMD systems. This 'Precision Tracking and Space System' (PTSS) is an important funding priority in the future years defense program[3].

Great importance is attached to the development of directed energy weapons (DEW) evidenced by the development of the US program of the ALTB (Airborne Laser Test Bed) prototype creation. First successful tests of ALTB in February 2010 became a demonstration of lethal air-based interception of a liquid-fuel BM using directed energy. According to some experts, DEW will become a principal system on a battlefield of the future.

In general, a most important feature of the current US policy in the sphere of regional BMD collaboration involves striving for the widest possible choice to meet the unique requirements of deterrence and defence which are substantially dependent on geographical, historical and military features of the region as well as on the level of collaboration with states participating in the large-scale BMD[4].

The regional US BMD effort is based on several principles.

1. The United States emphasizes the architecture of regional deterrence, based on close cooperation and a fair distribution of costs and efforts between the United States and its allies. The latter are supposed to be able to integrate into the overall plan and act in ways that strengthen joint security. While BMD is important in terms of regional deterrence the other elements are also considered significant. Regional deterrence of NWSs is to include a nuclear element (forward-based or other types of nuclear weapons). The role of nuclear weapons in the architecture of regional deterrence

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[3] Ballistic Missile Defense Review Report. Department of Defense of the United States of America, Feb. 2010, <http://www.defense.gov/bmdr/docs/BMDR%20as%20of%2026JAN10%200630_for%20web.pdf>.

[4] Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>.

may be reduced if the role of BMD or conventional offensive weapons increases.

2. The United States shall apply a phased adaptive approach to each region. For example, Washington does not consider it necessary to build all of the elements of a uniform global BMD architecture everywhere, rather it plans to create regional BMD systems taking account of local needs and capabilities.

3. In view of the fact that in the next decade the need for BMD facilities in various regions could exceed available resources, the United State shall develop mobile and transportable systems that could be moved from region to region in case of a crisis. If defensive capabilities can be rapidly reinforced, potential aggressors in several regions might be deterred.

These principles are to be applied on a region-by-region basis. The Pentagon shall rely on the Global Force Management process in decisions on the allocation of BMD forces[5]. (Fig. 1 shows elements of the BMD system deployed on the US partners' territories).

**The Asia-Pacific region (Japan, South Korea, Australia, and Taiwan)**

The USA has several BMD cooperation capabilities in this region with ***Japan*** being the main US partner in the region.

Tokyo deemed it necessary to start research on BMD in 1998 after three launches of the Taepodong MRBM from the territory of North Korea. In 1999, when North Korea test fired its Taepodong 1 missile that flew over Japan and landed into the Pacific Ocean, the Japanese government authorized the Ministry of Defence to begin developing a BMD system of the country's territory jointly with the United States.

At the end of the XX century, Japan and the USA began joint research and development of a next-generation interceptor missile. Since 1999, Japan has participated practically in the US Navy Area Defense Enhancement research program. Within the

[5] Ballistic Missile Defense Review Report. Department of Defense of the United States of America, Feb. 2010, <http://www.defense.gov/bmdr/docs/BMDR%20as%20of%2026JAN10%200630_for%20web.pdf>.

framework of this program, Japan is responsible for the development of important elements of interceptor missiles[6].

The successful BM interception tests carried out in 2002 encouraged Japan to decide to deploy (with the US support) its own multi-layered BMD system. The decision was announced in 2003. Formally it involved the purchase of the US Aegis sea-based BMD system and Patriot PAC-3 (Patriot Advanced Capability 3) interceptors as a 'purely defensive measure to protect the lives and property of citizens of Japan'[7] against BM attacks. At the same time, the Japanese Defence Agency planned to equip Maritime Self-Defence Force destroyers with Standard-3 (SM-3) interceptors.

In December 2004, Japan and the USA signed a joint memorandum that formalized their cooperation in the BMD area which included provisions for the mutual transfer of related technology[8].

The Security Consultative Committee's document 'US-Japan Alliance: Transformation and Realignment for the Future' setting the framework for future cooperation was published the following year[9].

In December 2005, Japan announced that it would contribute about a third of the overall funding for the US-Japan BMD program ($1-1.5 billion of the overall cost of approximately $3 billion)[10]. After that the US State Department officially announced that Japan became the most significant BMD partner of the United States[11].

The Japanese BMD is a layered system that includes Aegis warships with SM-3, PAC-3, mobile early warning radars, and command and control facilities.

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[6] Japanese BMD. 01 Sep. 2005, <http://www.inosmi.ru/translation/221912.html>.

[7] International cooperation on missile defense capabilities growing, effective missile defense deters proliferation, says State Department official, 04 Apr. 2006, <http://iipdigital.usembassy.gov/st/english/texttrans/2006/04/20060404160654idybeekcm0.2211725.html#axzz1pa7T1nIj>.

[8] US-Japan Framework Memorandum of Understanding on Missile Defense Cooperation, Dec. 2004, <http://www.japanconsidered.com/Occasional Papers/Rubinstein%20USJA%20BMD.pdf>.

[9] Kyodo, 1 Nov. 2005.

[10] Associated Press, 15 Dec. 2005.

[11] US Department of State, Press Release, 10 Mar. 2006.

The sea-based layer of the BMD includes four destroyers equipped with the US Aegis system and SM-3 interceptor missiles: Kongo, Chokai, Myoko, and Kirishima. Japan also plans to install BMD systems on two new destroyers that were built in Nagasaki[12].

In 2006, the United States and Japan tested an SM-3 with an experimental 'Clamshell' nosecone element designed by the Japanese that reduces the aerodynamic resistance to a minimum and shortens the flight time of the interceptor's kill vehicle[13].

US Patriot PAC-3 comprises another layer of Japan's BMD system. There are plans to deploy 124 missiles. First 32 interceptor missiles were purchased in the United States in 2010 and deployed on eleven bases across the country[14]. The remaining interceptor missiles have been produced in Japan.

The FBX-T radar deployed on Honshu Island is supposed to detect BM launches. In addition, Japan developed its own FPSXX radar for the same purposes. It is planned to install four such radars as elements of the first BMD layer. These radars are to form the basis of the country's BMD[15]. Apart from that, the system is expected to make Japan capable of intercepting missiles aimed at the United States and to be an essential element of the US defence against a potential adversary as well as help uphold US strategic interests in the region.

The two countries are also developing the next-generation SM-3 (SM-3 Block IIA). This co-development program not only represents an area of significant technical cooperation but also forms the basis for further efficient cooperation in the sphere of regional defence and security.

The USA and Japan have already made significant progress in the development, deployment, and integration of BMD elements and also in conducting joint BMD operations. Joint military exercises are carried out regularly. Both countries considered them successful. A number of successful flight tests of the SM-3 missile

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[12] O'Rourke, R., *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, 22 Dec. 2011, <www.crs.gov>.

[13] Japanese Ballistic Missile Defense, <http://www.missilethreat.com>.

[14] Goncharov, P., 'Protivoraketnaya oborona kak neizbezhnost?', *Ria Novosti*, 25 Dec. 2007, <http://www.rian.ru/analytics/20071225/94106631.html>.

[15] Vanin, V., 'Tikhookeanskiy protivoraketny shchit', *PIR-Center*, 11 Oct. 2007.

were carried out in recent years and demonstrated its ability to destroy MRBMs.

According to the Pentagon, 'the US-Japan partnership is an outstanding example of cooperation the United States seeks in order to tailor a phased adaptive approach to the unique threats and capabilities in a region'[16].

***South Korea*** is also an important US BMD partner. South Korea has expressed interest in purchasing sea-based and land-based BMD systems, early warning radars, and command and control systems[17].

The development of the BMD system began in November 2004 with the construction of three Aegis Korean KDX-III destroyers that were planned to be completed in 2010[18]. In June 2007, South Korea reaffirmed that it would begin to develop its BMD system in 2008. The KDX-III destroyers with Aegis were designed to be able to search and track about 100 targets simultaneously.

In the early 2000s, South Korea planned to purchase 48 PAC-3 in the United States, but in 2002 cancelled the deal, citing cost concerns. In April 2008, the Raytheon Company received a $241 million contract from the Pentagon to provide South Korea with command, control, and technical support equipment for the Patriot[19].

The United States and South Korea are currently working to define basic requirements for a future joint BMD system. According to US military and political leaders, once these requirements are determined, the United States will be ready to work jointly to strengthen the protection of its ally against the North Korean missile threat. The United States hopes to take further steps to enhance

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[16] Ballistic Missile Defense Review Report. Department of Defense of the United States of America. Feb. 2010.

[17] O'Rourke, R., *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, 22 Dec. 2011, <www.crs.gov>.

[18] Pike, J., 'Tien Tan Advanced Combat System Ship [AEGIS]', GlobalSecurity.org, 27 Apr. 2005, <http://www.globalsecurity.org/military/world /taiwan/acs.htm> .

[19] Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>.

operational coordination of forces and successful cooperation in the BMD field.

***Australia*** began cooperative efforts with the United States in the BMD field in the late 1990s. The DUNDEE (Down Under Early Warning Experiment) joint project involved a series of experiments held in September 1997. The purpose was to verify the Australian Jindalee radar's capability to detect ballistic missiles[20].

In late 2003, the Australian government announced its state program to counter BM and nuclear weapon proliferation threats. In connection with this program Australia and the United States signed the Framework Memorandum on Missile Defense Cooperation on 19 July 2004.

In October 2005 the two governments signed a bilateral agreement to expand their BMD research and development activities. These documents paved the way for close technological and informational cooperation between the two navies and defined the direction of BMD system development for the next 25 years[21].

In July 2004, after meeting with his Australian colleague Robert Hill US Secretary of Defense Donald Rumsfeld stated: 'We've signed a memorandum of understanding pledging to work together on developing system to defend our respective countries from missile attacks'[22].

According to Hill, certain elements of the BMD system would possibly be deployed in the vicinity of Australian cities due to the growing threat of BM proliferation. Prior to Rumsfeld's visit, Australia had already conducted successful tests of an early warning radar which was also considered as a possible element of the future joint US-Australian BMD program. The defence ministers of the two countries also agreed to modernize a number of Australian facilities that would be used later to conduct joint military exercises.

In 2006, the Australian Navy ordered three US sea-based BMD systems, including Mk 41 vertical launch systems, at a total

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[20] Blenkin, M., 'Fed: Australia Plays Role in Missile Defence', AAP Newsfeed, 5 Dec. 2003.

[21] Missile Defense Cooperation, International Cooperation on Missile Defense, <http://prague.usembassy.gov/md2_interview4/missile-defense-cooperation/>.

[22] McLennan, D., 'Hill Meets Rumsfeld, Signs 25-Year Missile Defense Agreement with US', *Canberra Times*, 8 July 2004.

cost of about $1 billion[23]. In addition, the decision was taken to procure AN/SPQ-9B radars, the data exchange Cooperative Engagement Capability System (CECS), the AN/SLQ-25A Nixie countermeasures transmitting set, AIMS MK XII Identification Friend or Foe (IFF) systems, and other related equipment, spare parts, and documentation as well[24].

In August 2005, Australia announced that it selected the American company Gibbs and Cox to design Australian destroyers for the Air Warfare Destroyer (AWD) project worth of 6 billion Australian dollars. In 2008, the Australian government sent a request to the United States inquiring whether it was possible to deliver additional Aegis BMD components in order to equip three new AWD destroyers the first of which was planned to be commissioned in 2013[25].

As of today, Australia is under no direct threat of missile attack. However, its military and political leaders, according to their statements, do not rule out the idea of such a threat arising in the future. It is probable that for Australia the main purpose of BMD cooperation with the United States is to maintain friendly relations between the two countries. Having military bases with BMD systems in the Pacific, the United States is able to protect itself and its allies from missile attacks not only from North Korea, but also from powerful nuclear armed states, such as China. In addition, cooperation creates opportunities for Australian industry, science, and technology. Many aspects of this cooperation are enshrined in the bilateral agreement between the United States and Australia and the trilateral agreement between the United States, Japan, and Australia on cooperation in the BMD field, signed in 2007[26].

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[23] 'Avstralia zaprosila u Vashingtona komponenty protivoraketnoy oborony', Lenta.ru, 13 May 2008, <http://www.lenta.ru/news/2008/05/13/aegis/>.

[24] 'Avstralia prisoedinilas k amerikanskoy programme protivoraketnoy oborony', July 19, 2004, <http://www.army.lv/?s=405&id=589>.

[25] Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>.

[26] Treaty Between the Government of the United States of America and the Government of Australia Concerning Defense Trade Cooperation, 5 Sept. 2007, <http://www.state.gov/t/pm/rls/othr/misc/101756.htm>.

The United States continues bilateral consultations with Australia regarding new US BMD capabilities and plans in order to share information that would help make decisions on further BMD cooperation.

**Taiwan** began cooperative efforts with the United States in the field of defensive armaments in the 1970s[27].

The Chinese missile tests carried out in 1995 and 1996 in the Taiwan Straits area strengthened political support in Taipei for the BMD idea. After the tests, the delivery of the PAC-2 purchased earlier was accelerated. In early 1999, Taiwan showed interest in ordering Patriot-3 systems and Aegis destroyers[28].

Taiwan is currently building a BMD system that comprises land- and sea-based elements: radars, Patriot SAM units, and Arleigh Burke Class destroyers equipped with Aegis.

Taiwan first expressed interest in purchasing a new version of the American PAC-3 in 2001. While formally agreeing to meet Taipei's request, Washington dragged out on the deal for seven years for fear of compromising its relations with China, which was seeking to return Taiwan to its jurisdiction[29] (under the 1979 Taiwan Relations Act the USA may only deliver defensive weapons to Taiwan).

At the end of 2008, the Pentagon approved the sale of an arms package to Taiwan worth of $6.5 billion[30]. The package included modified Patriot PAC-3 BMD systems with 330 missiles[31]. First deliveries took place in the mid-2009.

The White House justified its decision to build a BMD system in Taiwan, arguing that North Korea possessed nuclear

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[27] Tsvetkov, I., 'Taivanskaya problema vovneshney politiki SShA v 1990-e gody', Chap. 3 in *Istoria SShA*, <http://www.ushistory.ru/dissertatsii/182-glava-3-tajvanskaja-problema-vo-vneshnej-politike-ssha-v-1990-e-gody.html>.

[28] Romashkina, N., 'Programma razvitia elementov peredovogo bazirovania PRO SShA: tekhnologicheskie aspekty i vozmozhnoe reagirovanie', *Index Bezopasnosti*, PIR-Center, Vol. 15, No. 1(88), 2009.

[29] 'Voenno-technicheskoe sotrudnitchestvo Taivanya i SShA', Moskovskyi fond informazionnyh technologiy, <http://www.mfit.ru/defensive/obzor/ob18-06-04-4.html>.

[30] 'SShA sozdadut antikitayskuyu PRO na Taiwane', *Rossiisky Mirotvorets*, 10 June 2008, <www.peacekeeper.ru/ru/index.php?mid=7583>.

[31] Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>.

missiles that could be launched against US allies in Southeast Asia, primarily against Japan. The deal irritated the PRC. Beijing argued that this deal seriously poisoned relations with the United States[32].

The PAC-3 system is able to intercept not only aerodynamic targets, but also warheads at their passive trajectory phase (during free fall). In view of the advanced capabilities of this system, its radar is able to detect ballistic and other missiles launched not only from the territory of North Korea, but also from neighbouring China. Thus, the deployment of these systems within the territory of Taiwan would be regarded by official Beijing as a new element of the US BMD in the region[33].

The United States engaged in multilateral discussions on BMD deployment with several partners in the region. According to the Pentagon, as the USA enters into bilateral discussions of BMD in East Asia, 'an additional goal is to share BMD information among countries on a multilateral basis in order to help each country improve its own capabilities'[34].

## Middle East (Israel)

***Israel*** began to develop its missile defence in 1986 to respond to the increasing threat of missile proliferation in the region. Iran's nuclear program and repeated threats emanating from Iranian leaders also served as an impetus for Israeli BMD development. Having no experience in the BMD field, Israel concluded an agreement with the United States to jointly develop and fund the Israeli BMD system. On the basis of the Memorandum of Understanding signed by the United States and Israel in 1988, experts from the Lockheed Martin Corporation and the Israeli Aerospace Industries (IAI) began to work on the Arrow missile

[32] 'SShA sozdadut antikitayskuyu PRO na Taiwane', *Rossiisky Mirotvorets*, 10 June 2008, <www.peacekeeper.ru/ru/index.php?mid=7583> .

[33] Report of the Defense Science Board Task Force on Patriot System Performance. US Department of Defense. Jan. 2005, <www.acq.osd.mil/dsb/reports/2005-01-Patriot_Report_Summary.pdf>.

[34] Ballistic Missile Defense Review Report. Department of Defense of the United States of America. Feb. 2010.

defence system[35], which represents a concentrated BMD system, suited for a country with a compact territory.

The first test launch of the system's interceptor missile took place on 9 August 1990[36]. The Hetz system entered operational service in 2000. It is designed to destroy SRBMs at ranges up to 100 km and altitudes up to 50 km. It is capable of intercepting missiles launched up to 3000 km away and travelling at speeds of up to 4.5 km/sec[37].

On 5 January 2003, the tenth flight test of the Arrow-2 interceptor took place at the Palmachim AFB test range in the Negev desert. At the same time, it was also the fifth full-scale test of the overall Arrow-2 system as part of the ASIP program, which is a joint program of the United States and Israel to further improve the Arrow interceptor missiles[38].

According to some reports, the Israeli Aerospace Industries with the support of Elta Group have been awarded a contract by the Israeli MOD to develop a new modification – Arrow Mark IV system with an upgraded Green Pine I radar capable of detecting missile launches up to 700 km away. The Arrow Mark IV system is expected to strengthen Israel's defence against a potential missile strike, especially from Iran.

In September 2008, the USA deployed the AN/TPY-2 forward-based X-Band transportable FBX-T radar on Israeli territory, permitting detection and tracking of BMs shortly after launching. It was assembled and installed temporarily at Israel's Nevatim airbase in the Negev desert and later transported to its permanent deployment site. The AN/TPY-2 transmits data to the Arrow system command and control centre. 120 American military servicepersons were sent to Israel to operate the radar. They were placed under the US European Command (EUCOM)[39].

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[35] ARROW, <http://www.israeliweapons.com/weapons/missile_systems/surface_missiles/arrow/Arrow.html>.

[36] Miasnikov, V., 'Na protivoraketnyy shchit deneg ne zhaleut', *Nezavisimoye Voennoye Obozrenie*, 31 May 2004.

[37] Romashkina, N., 'Programma razvitia elementov peredovogo bazirovania PRO SShA: tekhnologicheskie aspekty i vozmozhnoe reagirovanie', *Index Bezopasnosti*, PIR-Center, Vol. 15, #1 (88), 2009.

[38] Sieff, M., Israel Plans New Arrow Mark 4. Space war, <www.space war.com/reports/Israel_Plans_New_ Arrow_Mark_4.html>.

[39] Missile Defense Systems, Israel, <http://www.missilethreat.com/>.

The on-going threat posed by launches of SRBMs against the territory of Israel has prompted Israel to deploy two BMD systems designed to defend its territory against this type of threat. The first, called Iron Dome, is a strike interceptor, while the second (David's Sling) is a laser-based counter-mortar program. The Iron Dome system consists of several missile firing units and radars.

Israel's commitment to national BMD is also determined by the understanding of the need to protect the country against cross-border terrorist attacks, possibly with the use of WMDs, as well as against missiles with conventional or nuclear warheads. The Israeli approach to BMD takes into accounts both horizontal (terrestrial) and vertical (air-space) threats.

The development of BMD systems can strengthen the country's defence and improve its military technical capabilities. However, it could also provoke a regional arms race.

In recent years, members of the Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates – UAE) began to explore a range of individual and collective BMD options to protect themselves against Iran's growing ballistic missile capabilities. This move fostered their closer cooperation with the United States, most notably on the part of Kuwait, Saudi Arabia and the UAE, who expressed interest in purchasing the PAC-3 system. So, in December 2007, the US administration notified Congress of a possible sale of BMD elements to Kuwait and the UAE. The UAE requested 288 PAC-3, 216 Guided Enhanced Missiles-T (GEM-T), nine Patriot fire units, and the relevant equipment. Kuwait was seeking to obtain 80 PAC-3, GEM-T modification kits to upgrade PAC-2 units, and other systems for a total cost of $1.4 billion[40].

Saudi Arabia signed two contracts with the Raytheon Company totalling over $100 million for air defence systems and other work, including for the provision of technical, training, and logistics support for Patriot and HAWK air defence systems.[41]

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[40] Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>.

[41] 'Raytheon Gains $100 Million in Patriot, Hawk Contracts from Saudi Arabia', *Defense Daily*, 5 Oct. 2007.

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The analysis presented above strongly suggests that there is a close relationship between missile and missile technology proliferation and the development of regional (as well as global) BMD systems. The United States plays a key role in the proliferation of BMD technology: either as a direct participant in establishing systems and a source of technologies (for Australia, Japan, South Korea, and Taiwan), as a partner in joint BMD development programs (Israel), or as a model and potential military technical partner (India).

In this context it is important to note that difficulties in the Russian–US cooperation on BMD largely depend on their approaches to an assessment of a level of strategic stability at the present stage. The outcome of the international conference on BMD held by the Russian MOD in Moscow in spring 2012 reaffirms it. This meeting was an unprecedented event in military and political bilateral relations. The difference in the results of the assessment level of strategic stability in the context of the implementation of the US BMD plans was obviously one of the reasons for the key outstanding issues. According to the Russian political and military leaders, the above level goes beyond necessary and sufficient scope, while representatives of the US administration argue that it remains within this scope.

The most appropriate way to solve the problem of Russian–US cooperation on BMD in the near future is the intensification of the process of developing general approaches to an assessment of strategic stability in new military and political conditions.

However, the up-to-date analysis of US regional BMD systems leads to the conclusion that the United States is focusing on the regional dimension of strategic stability. And it is this system approach that is used at planning of BMD deployment to defend territory of the United States against all missile threats, wherever they may come from.

In spite of the fact that even a full-scale implementation of all regional BMD programs will not ensure an effective defence of the territory against a massive missile attack (especially against an attack by missiles equipped with penetration aids), today the deployment program of large-scale BMD system works for the US interests.

Firstly, the planning of regional BMD systems puts an urgent and maximum achievable at the current stage goal – development of the modern means of layered BMD against limited missile attack with the complex of penetration aids. These means include interceptors of complex BM targets on vulnerable for the USA directions.

In pursuit of this goal the USA solves the problem of hitting ballistic missiles at a considerable distance from the defended object (the US city, military or economic component of state infrastructure, and so forth). Thus, the deployment of missile complexes in other states often situated thousands of kilometres from the continental United States protects it from all possible consequences of BMs (including the ones with nuclear warheads) destruction.

The most effective way to realize the goal of intercepting a BM at any stage of its trajectory seems to be to hit it at the initial phase of its flight over the territory of the state from which it has been launched. In any case it facilitates the BM tracking for a radar located closer to the target. That, in turn, reduces the overall time for antimissile launch to make the interception highly accurate.

Secondly, the deployment of the information elements of space-missile BMD (systems of early warning and space control) in most regions of the world enables the US to solve the priority task of getting the maximum information about the general current space missile situation and developments (including a possible military conflict).

Thirdly, in addition to military issues, today Washington quite successfully solves the most important political ones that are directly or indirectly related to BMD as an exceptionally rapidly growing sphere of current strategic weapons systems. At the same time the United States makes efforts to expand its influence, including increasing the scope of the multilateral international cooperation not only with their traditional allies and partners but also with other countries.

And finally, the sale of the US BMD elements based on the advanced R&D to their allies and partners meets the economic interests of the United States.

Russia develops its independent BMD programs in the context of the Aerospace Defence (ASD). It is logical to assume that the Russian Federation will also cooperate in this area (as well

as in the field of air defence) with its allies in the CIS, CSTO and SCO[42].

The roles of the US BMD and Russian ASD will increase in the context of their strategic relationship with China. China is able to respond to this challenge by building up its nuclear-missiles. However for a number of reasons engaging China in cooperation with Russia on BMD and MTCR and in the assessment of levels of strategic and regional stability may serve Russian security interests and contribute to strengthening the global arms control and non-proliferation regimes.

[42] In 2010 Azerbaijan and in 2012 Belarus purchased from the Russian Federation new long-range S-300PMU2 Favorit (a deep modernization of the C-300PMU1 intended for exports) designed for area defence of important national military facilities and troops. In 2013, Russia and Kazakhstan signed an agreement on the joint regional air defence system. There have been discussions of Russia-Armenia cooperation in the defence sphere.

Table 1. Air and ballistic missile defence in the world

| Name | State partners | Current status |
|---|---|---|
| ***Australia*** | | |
| BMD system Project DUNDEE | USA | Operational |
| Sea-based system Aegis | USA | Development |
| Jindalee radar | | Operational |
| ***Azerbaijan*** | | |
| System S-300 P (SA-10 Grumble/SA-20 Gargoyle) | RF | Operational |
| ***Bahrain*** | | |
| Patriot | | Operational |
| ***Belarus*** | | |
| S-300 P (SA-10 Grumble/SA-20 Gargoyle) | RF | Operational |
| ***China*** | | |
| Ground-based BMD system FT-2000 | | Operational |
| Ground-based BMD FT-2000A | | Unknown |
| FBM Hongqi-2 (HQ-2) | RF | Operational |
| Anti-aircraft land- and sea-based rocket system Hongqi-9 (HQ-9) | | Operational |
| Anti-aircraft land-based rocket system Hongqi-10 (HQ-10) | RF | Operational |
| Anti-aircraft land-based rocket system Hongqi-15 (HQ-15) | | Operational |
| Anti-aircraft land-based rocket system S-300/S-300P (SA-10 Grumble/SA-20 Gargoyle) | RF | Operational |
| Patriot | USA | Operational |
| Surface-to-air missile system PAAMS(S) | | Operational |
| ***Denmark*** | | |
| Radar AN/FPS-120 (upgraded RS AN/FPS-123) of Upgraded Early Warning Radar | USA | Operational |

| | | |
|---|---|---|
| ***France*** | | |
| Aster 30 in PAAMS(S) | | Operational |
| SAMP/T | | Operational |
| ***Germany*** | | |
| Medium Extended Air Defense System (MEADS) | USA | Development |
| Patriot | USA | Operational |
| ***Greece*** | | |
| Patriot | USA | Operational |
| ***Greenland*** | | |
| Thule Upgraded Early Warning Radar | | Operational |
| ***India*** | | |
| Ground-based Prithvi Air Defence | | Development |
| ***Iran*** | | |
| Anti-aircraft land-based system Bavar-373 | | Development |
| ***Israel*** | | |
| Anti-aircraft land-based rocket system Bavar-373 | | Development |
| Anti-ballistic ground-based BMD system Arrow 3 | USA | Development |
| THEL (Tactical High Energy Laser) | USA | Operational |
| Raz Multimode Radar (MMR) (EL/M-2084) | USA | Operational |
| Radar (FBX-T) Army Navy/Transportable Radar Surveillance (AN/TPY-2) | USA | Operational |
| David's Sling ground-based system (Stunner/Magic Wand) | USA | Development |
| Iron Dome ground-based system | USA | Operational |
| Patriot | USA | Operational |
| Air-defense land-based missile system Homing All the Way Killer (*HAWK)* | USA | Operational |
| ***Italy*** | | |
| Anti-aircraft land-based Aster 30 | France | Operational |
| Ground-based AMS MEADS | USA Germany | Development |

| | | |
|---|---|---|
| Air-defence land-based SAMP/T | | Operational |
| ***Japan*** | | |
| See-based Aegis | USA | Operational |
| Patriot PAC-3 | USA | Operational |
| Mobile X-Band Radar | USA | Operational |
| Ship-based radar Mobile Army/Navy SPY-1 | USA | Operational |
| Radar system FPS-XX | USA | Operational |
| ***Jordan*** | | |
| Patriot | | Operational |
| ***Kuwait*** | | |
| Patriot | USA | Operational |
| ***Netherlands*** | | |
| Air-defense land-based missile system Patriot | USA | Operational |
| Radar system M3R | | Operational |
| ***Norway*** | | |
| Radar system AN/FPS-129 | USA | Operational |
| Sea-based Aegis | USA | Operational |
| ***Poland*** | | |
| Patriot | | Operational |
| ***Qatar*** | | |
| Terminal High Altitude Area Defense (THAAD) | USA | Operational |
| ***Russia*** | | |
| BMD system A-35 | | Operational |
| BMD system A-135 | | Operational |
| ABM 53T6 Amur (Gazelle (SH-08/ABM-3) | | Operational |
| ABM 51T6 Azov (Gorgon (SH-11/ABM-4) | | Unknown |
| Air-defence missile system S-25 (SA-1 Guild) | | Operational |
| Air-defence missile system S-75 (SA-2 Guideline) | | Operational |
| Anti-aircraft rocket system S-125 (SA-3 Goa) | | Operational |

| | | |
|---|---|---|
| Anti-aircraft land-based system S-300P (SA-10 Grumble/SA-20 Gargoyle) | | Operational |
| Anti-aircraft land-based system S-300V (SA-12A Gladiator, SA-12B Giant) | | Operational |
| Multifunctional air-defence land-based missile system S-400 Triumf (SA-20 Triumf) | | Operational |
| Anti-aircraft land-based system S-500 | | Development |
| ***Saudi Arabia*** | | |
| Patriot | | Operational |
| ***Singapore*** | | |
| Anti-aircraft land-based Aster 3 | France | Operational |
| ***South Korea*** | | |
| Patriot PAC-3 | USA | Operational |
| Sea-based Aegis | USA | Development |
| ***Spain*** | | |
| Patriot | USA | Operational |
| Sea-based Aegis | USA | Development |
| ***Syria*** | | |
| S-300P (SA-10 Grumble/SA-20 Gargoyle) | RF | Operational |
| ***Taiwan*** | | |
| Homing All the Way Killer (HAWK) | USA | Operational |
| Patriot PAC-3 | USA | Operational |
| Ground-based Tien Kung (Sky Bow) | | Operational |
| Ship-based Aegis | | Development |
| ***Turkey*** | | |
| Mobile ground-based radar AN/TPY-2 | USA | Operational |
| Patriot | USA | Operational |
| ***UAE*** | | |
| Anti-aircraft sea-based system (SA-20 Gargoyle) | RF | Unknown |
| Patriot | USA | Operational |
| THAAD | USA | Operational |

| | | |
|---|---|---|
| ***United Kingdom*** | | |
| Aster 30 | USA | Operational |
| Fylingdales Early Warning Radar | USA | Operational |
| ***USA*** | | |
| Airborne Laser (ABL) | | Development |
| Air Borne Infra Red (ABIR) | | Development |
| Aegis Ship-Based BMD | | Operational |
| Army Navy/Transportable Radar Surveillance (AN/TPY-2) | | Operational |
| Army/Navy SPY-1 Radar | | Operational |
| High Altitude Airship (HAA) Blimp | | Operational |
| Space-based BMD system Brilliant Pebbles | | Terminated |
| BMD system boost phase ballistic missile Interceptor (BPI) | | Operational |
| Ground-based radar missile warning system on the base Cobra Dane Radar (AN/FPS-108) | | Operational |
| Satellite early warning system in the frames of Defense Support Program (DSP) | | Operational |
| Ground-based anti-ballistic missile with Exoatmospheric Kill Vehicle (EKV) | | Operational |
| Mobile advanced deployment radar system Forward-Based X-Band Radar-Transportable (FBX-T) | | Operational |
| Fylingdales Early Warning Radar (FEWR) | UK | Operational |
| Trans-atmospheric BMD Ground-Based Interceptor (GBI) | | Operational |
| Strategic IBM interceptor ground-based system of midcourse defense | | Operational |
| Homing All the Way Killer (HAWK) | | Operational |
| Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) | | Development |

| | | |
|---|---|---|
| Kinetic Energy Interceptor (KEI) | | Terminated |
| Kodiak Launch Complex | | |
| Medium Extended Air Defense System (MEADS) | Germany Italy | Development |
| Space-based satellite Near Field Infrared Experiment (NFIRE) | | Operational |
| Ground-based anti-missile with nuclear warhead Nike-X | | Terminated |
| Ground-based anti-missile with nuclear warhead Nike-Zeus | | Terminated |
| Patriot PAC-2 | | Operational |
| Patriot PAC-3 | | Operational |
| Patriot | | Operational |
| AMS Project Dundee | Australia | |
| Precision Tracking Space System (PTSS) | | Development |
| Ronald Reagan Ballistic Missile Defense Test Site (RTS) | Marshall Islands | Operational |
| Ground-based anti-missile Safeguard | | Terminated |
| Space-Based Infrared System-High (SBIRS-High) | | Operational |
| Space-Based Laser (SBL) | | Operational |
| Sea-Based X-Band Radar (SBX) | | Operational |
| Ground-based anti-missile Sentinel (Spartan, Spirit) | | Terminated |
| Space Tracking and Surveillance System (STSS) | | Operational |
| Ship-based anti-missile Standard Missile 2 (SM-2) | | Operational |
| Terminal high altitude area defense (THAAD) | | Operational |
| Ground-based Tactical High Energy Laser (THEL) | Israel | Operational |
| Radar station with Upgraded Early Warning Radar | Denmark | Operational |
| Radar station with Upgraded Early Warning Radar | | Operational |

| | | |
|---|---|---|
| Ship-based radar station XTR-1 | | Development |
| Ship-based radar station Cobra Judy-2 | | Development |

Sources: Ballistic and Cruise Missile Threat, National Air and Space Intelligence Center Wright-Patterson Air Force Base, <http://www.fas.org/>; Ballistic Missile Defense Review Report. Department of Defense of the United States of America. February 2010; Ballistic Missiles of the World. A Project of the Claremont Institute, <http://www.missilethreat.com/>.

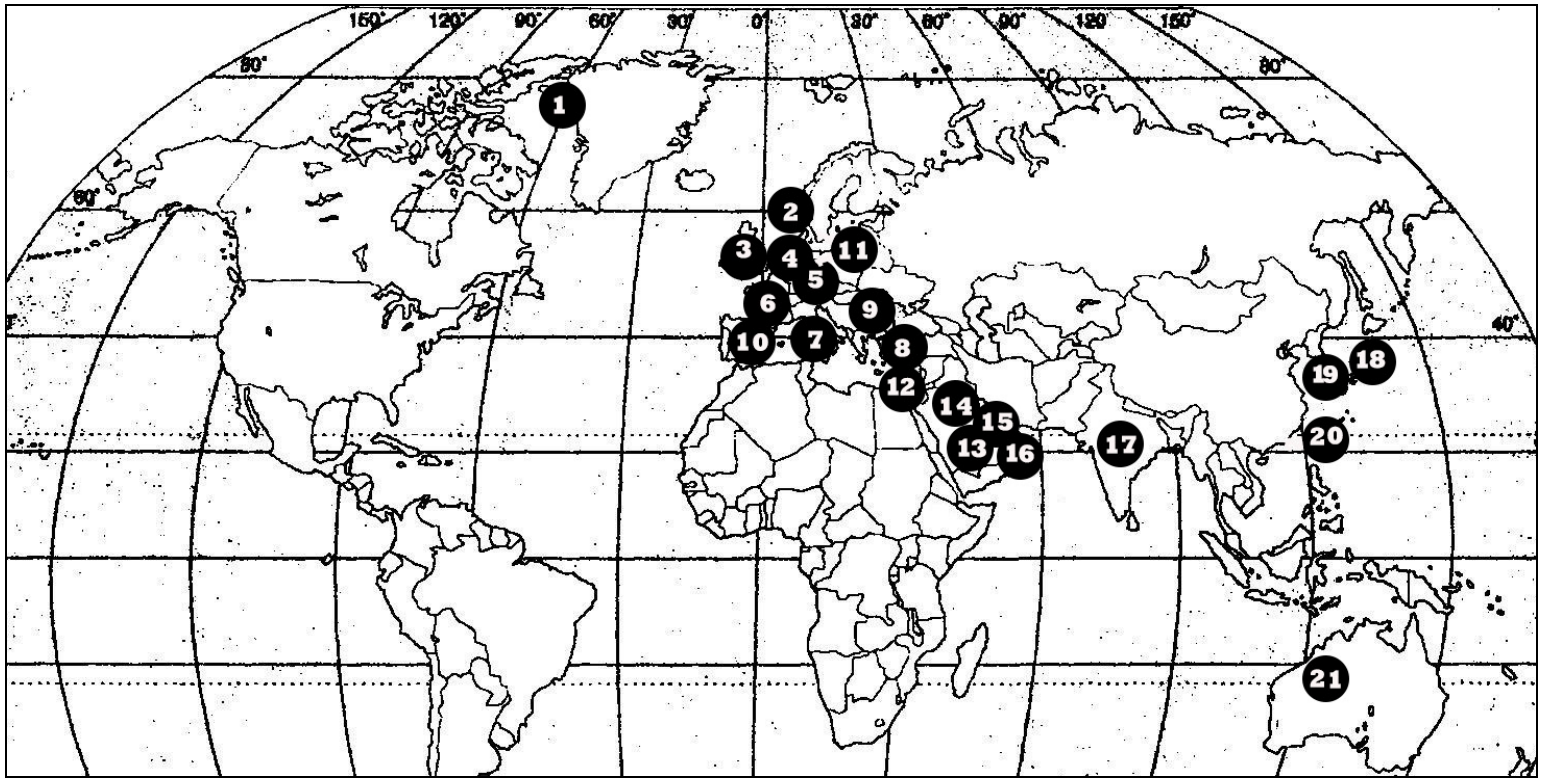


Fig. 1. Elements of BMD systems on the territory of the US partners

Notes:

1. Denmark (Greenland): Ballistic Missile Early Warning AN/FPS-120 radar (AN/FPS-123 mod); sea-based Aegis is planned.

2. Norway: AN/FPS-129 radar; sea-based Aegis.

3. Great Britain: AN/FPS-126 (AN/FPS-123 mod), PAAMS(S) surface to air missile system; sea-based Aegis is planned.

4. The Netherlands: M3R radar, early warning satellite; SAMP/T Block II surface-to-air system (SAM), BMD command center; sea-based Aegis is planned.

5. Germany: MEADS SAM, PAAMS SAM; BMD command center, SAMP/T Block II SAM, sea-based Aegis is planned.

6. France: PAAMS SAM, SAMP/T SAM.

7. Italy: PAAMS, SAMP/T, MEADS; SAMP/T Block II to be deployed.

8. Turkey: AN/TPY-2 radar, BMD command center; Arrow is planned to be deployed.

9. Romania: SM-3, Aegis command center, radar, Aegis Ashore system to be deployed.

10. Spain: Patriot PAC-3; sea-based Aegis system is planned.

11. Poland: SM-3 and Aegis Ashore are planned.

12. Israel: Arrow, Tactical High Energy Laser (THEL), Mini Raz MMR (EL/M-2084), Raz MMR (EL/M-2084), Patriot PAC-3, radar (FBX-T) AN/TPY-2; Aegis Ashore is planned.

13. Saudi Arabia: Patriot PAC-3, GEM-T missiles are planned.

14. Kuwait: Patriot PAC-3, GEM-T SAM.

15. Qatar: Terminal High Altitude Area Defense (THAAD), AN/TPY-2 radar.

16. UAE: Patriot PAC-3.

17. India: radar, Arrow-2 system elements; radar, Prithvi Air Defence (PAD), Advanced Air Defence (AAD) to be deployed.

18. Japan: sea-based Aegis system, Patriot PAC-3 SAM, AN/TPY-2 (FBR-T) radar, J/FPS-XX and J/FPS-3 mod.

19. South Korea: Patriot PAC-3, sea-based Aegis system; AN/TPY-2 radar is planned.

20. Taiwan: HAWK surface to air missile system, PAC-3, Tien Kung (Sky Bow); sea-based Aegis system is planned.

21. Australia: Project DUNDEE, Jindalee radar; sea-based Aegis system is planned.

Sources: Ballistic Missile Defense Review Report, Department of Defense of the United States of America, February 2010; O'Rourke, R., Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress, 14 Mar. 2013, Congressional Research Service, <www.crs.gov>; Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century, 2009 Report, The Institute for Foreign Policy Analysis, Inc., <https://www.claremont.org/>; <http://rbase.new-factoria.ru/sale/rszo>.

## 3. ROLE OF NUCLEAR WEAPONS IN SOUTH ASIA: POLICY, TECHNOLOGIES, DOCTRINES[43]

Petr TOPYCHKANOV

The question about the role of nuclear weapons (NW) in South Asia does not have a clear answer. The absence of the official nuclear doctrines in India and Pakistan is one of the reasons. The dynamic development of the nuclear programs of two states is another one. There are further reasons, e.g. reaching new technological levels in the fields of nuclear energy, missiles, ballistic missile defence, etc. All these reasons cause the transformation of the role of nuclear weapons in South Asia.

An analysis of the ambiguity of the nuclear weapons role in India and Pakistan and the prospects for its further transformation is a research challenge which will not cease to be highly important in the foreseeable future.

### Political reasons of the nuclear choice of South Asian competitors

In 1980s security challenges that faced India and Pakistan led to a situation of 'latent deterrence', i.e. of virtual mutual deterrence between the countries that were about to cross a nuclear threshold. It was at that time when the two countries acquired technologies and materials needed for the production of NW.

[43] The paper was translated by the author. Some parts of the text were changed and updated.

In 1974 India held a so-called peaceful nuclear explosion at the Pokharan test site in Rajasthan. However, its final claim of membership in the 'nuclear club' came on 11 May 1998 after three test explosions of nuclear devices with a yield of 45 kt, 15 kt and 1 kt. On 13 May India detonated two additional devices with a yield of less than 1 kt. Pakistan was obviously well prepared and responded symmetrically by exploding six devices in the course of two days.

By this time there were many evidences that India and Pakistan used to regard the principle of minimum nuclear deterrence as a basis for their nuclear doctrines. For example, the Draft Report of the National Security Advisory Board on Indian Nuclear Doctrine (17 August 1999) contains a provision that 'India shall pursue a doctrine of credible minimum nuclear deterrence. In this policy of 'retaliation only', the survivability of our arsenal is critical'.

The principle of 'minimum credible nuclear deterrence' was adopted as a basis for the nuclear policy of Pakistan by Prime Minister Nawaz Sharif on 20 May 1999.

If Pakistan still confirms its adherence to this principle, India tends to go beyond it as well as beyond the concept of South Asia. Many strategists in India (but not in Pakistan) believe that South Asia is an inappropriate term. For example, Ambassador Kanwal Sibal states: 'I always found the term South Asia geopolitically misleading. It is considered more politically correct to call the Indian sub-continent South Asia to cater to the sensibilities of those who want to project their political personality shorn off the Indian connection' (30 May, 2012), or Commodore C. Uday Bhaskar argues 'that South Asia is a misleading term' (31 October 2012).

Official statements reflect India's ambition to go beyond the South Asian region. For example, Admiral Suresh Mehta, Chief of Naval Staff, argued (in 2006–2009): 'we are not only looking at countering threats but to protect India's economic and energy interests. This task has extended our area of operations and might necessitate our operating in distant waters'.

In 2006 Raja Mohan offered the vision of strategic environment and objectives of India. The analyst suggested the scheme of three circles:

- in the first circle, which includes close Indian neighbours, India seeks leadership and possibility to prevent interference by third countries;
- in the second circle, which includes the extended neighbourhood and the Indian Ocean, India tries to balance the influence of other countries and avoid damaging its own interests;
- in the third circle, which is a whole world, India is committed to claim the status of a great power.

The objectives of Indian security lie within these circles. It means that India can be ready to use nuclear weapons in these circles, if necessary.

This readiness was proved by George Fernandes, Defence Minister of India, who argued (in 1999–2004): China with its vast nuclear arsenal, Pakistan with its nuclear weapons and delivery system capability, the US perching in Diego Garcia and eight other Asian countries possessing missiles suggest quite a grim security scenario[44]. If India's potential adversaries include not only China and Pakistan, but also a number of other countries, how this environment might affect India's minimum nuclear deterrence?

As for Pakistan, many officials and experts define its foreign and defence policies as India-centric. According to General Kayani, Chief of Army Stuff, Pakistan Army remains an 'India-centric' institution and that approach will not be changed significantly until the Kashmir issue and water disputes are resolved[45]. Pakistan links the risk of conventional and nuclear war only with India. Pakistan's vision of other countries could be described as a 'zero-enemy approach'. According to Lieutenant General (ret.) Asad Durrani, former director-general of the Inter-Services Intelligence (ISI), there are several key points in the foreign policy of Pakistan:

- there are friends of Pakistan in China and Afghanistan;
- relations with Turkey are important;
- Pakistan is not an enemy of Iran;
- Russia is a new partner for Pakistan. No bridges have been burnt between these two countries and Pakistani-Russian relations continue to improve;

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[44] Quoted from: Kumar, A., and Vannoni, M., *Ballistic Missile Proliferation in Southern Asia: Options for Stabilization* (Albuquerque: Sandia National Laboratories, 2004), p. 22.

[45] Dawn, 4 Feb. 2010.

- India is a possible friend (obviously not now);
- Pakistan's problems with the United States and Europe are accidental.

From this perspective, the minimum nuclear deterrence of Pakistan serves only to balance India.

In the absence of extra-regional adversaries, Pakistan has no reason to develop long-range BMs. Instead, Islamabad will likely seek to increase its self-reliance in the area of missile development and production. At the same time Pakistan tries to find new options to respond to the development of the Indian capabilities. Pakistan works now on Ghauri-3 ICBM (3000 km), Hatf-9/Nasr TNW, Hatf-7/Babur GLCM (700 miles), and Hatf-8/Raad ALCM (300 km). If these systems are operational, India's BMD will not be able to protect the national territory from a nuclear strike.

At least one of these systems, Hatf-7/Babur GLCM, could be used by the Naval Strategic Force Command (NSFC), established on 19 May 2012. In the absence of the naval part of the nuclear forces the decision to establish a new institution could be explained in two ways: 1) according to Vice-Admiral Tanveer Faiz, the NSFC will perform a pivotal role in development and employment of the Naval Strategic Force, which, as the custodian of the nation's second strike capability, will strengthen Pakistan's policy of credible minimum deterrence and ensure regional stability; 2) as an act of demonstration in response to India's 'blue water' policy, which includes the plans to build several SSBNs and to get one aircraft carrier from Russia.

## Development of missile programs in South Asia

**India.** In the mid-1980s Indira Gandhi's government commissioned the Defence Research and Development Organization (DRDO) to conduct research and development in three areas, including on different classes of missiles. Since the early 1980s Bharat Dynamics Limited (BDL) has been the main defence agency of the Integrated Guided Missile Development Program (IGMDP).

In 1983, Prithvi-1 tactical missile capable of carrying both nuclear and conventional warheads was the first project approved

under the IGMDP. According to some estimates, 5-10% technologies used in this missile were foreign-based including liquid propulsion and guidance systems[46]. The missile was successfully flight-tested in 1988 for the first time, with a total of 14 flight tests held of which only one proved a failure. In 1994 BDL started serial production of Prithvi-1[47].

The first liquid-propulsion tactical missile of the Prithvi family was followed by other types: Prithvi-2 (first flight test held in 1992) intended for the Air Force, and Dhanush (2000) and Prithvi-3 (2004) for the Navy. By now BDL may have manufactured over 150 Prithvi-1 missiles and over 70 Prithvi-2 missiles (see Table 1). As for Prithvi-3, if BDL has completely fulfilled the Navy's order, India should possess over 80 missiles of this modification. However, these missiles cannot be deployed yet, as India has no ships equipped with the required launchers.

The Prithvi system is also considered for export. Back in 1996, Indian authorities included Prithvi missiles in their exports lists[48].

The Agni medium-range ballistic missile (MRBM) was a second project under the IGMDP approved in 1983[49]. It was developed by the Advanced Systems Laboratory (Hyderabad), while BDL was tasked with its production[50]. The so-called Agni technology demonstrator was first test-launched in 1989, and in 1992 and 1994 more test launches were held.

On the basis of 1995 results India decided to develop Agni-2 operational weapon system. Its first test launch in 1999 was shortly followed by tests of other missiles of the family: Agni-1 (2002), Agni-2 Prime/Plus (2010), Agni-3 (2006), with Agni 4/5 being currently developed. It is assumed that only one-stage Agni-1 solid-

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[46] India Defence Industry. 16 October 2002, Central Investigation Agency, <http://www.cia.gov/nic/pubs/research_supported_by_nic/conference_paper/bristow.htm>.

[47] BDL Milestones, Bharat Dynamics Limited, <http://bdl.ap.nic.in/milestones.htm>.

[48] Kumar, D., 'Prithvi, Other Missiles Available For Export', *Times of India*, 14 Jan. 1996; Pandit, R., 'New Delhi Planning to Sell Missiles to Friends', *Times of India*, 2 May 2003.

[49] Subramanian, T.S., 'A Success Story', *Frontline*, 2005. Vol. 22. Issue 20.

[50] Missile Defense Headlines Update. 14-20 May 2010. Ed. by P. Lahr (Alexandria: Missile Defense Advocacy Alliance, 2010), p. 32.

propellant tactical missile and two-stage Agni-2 solid propellant MRBM have entered service[51], with Agni-1 manufactured since 2004, and Agni-2 since 2001.

On 19 April 2012, India conducted a test launch of Agni-5 missile, after which its officials announced that India joined the 'elite missile club' of states possessing ICBMs[52]. In reality Agni-5 is essentially a medium-range missile, which may enter service in 2015, should a series of its tests prove successful[53].

Table 1. India's production of ballistic missiles, 2011

| **Designation** | **Class** | **Warhead** | **Since year** | **No. of units/ year** | **Total No. of units** | **Unit cost** |
|---|---|---|---|---|---|---|
| Prithvi-1 | Tactical | Conventional | 1994 | 10-50 units of the Prithvi family | ~150 | about $0.5 m |
| Prithvi-2 | Tactical | Conventional | 2004? | | ~70 | |
| Prithvi-3 | Tactical | Nuclear | 2004? | | ~80 | |
| Dhanush | Tactical | Nuclear | 2003? | | over 25 | |
| Sagarika | Tactical | Nuclear | ? | | ? | |
| Agni-1 | Tactical | Nuclear | 2004 | ? | ? | ? |
| Agni-2 | MRBM | Nuclear | 2001 | 10-18 | ~100 | $4.8-6.6 m |
| Agni-3 | Tactical | Nuclear | ? | ? | ? | ? |
| Agni-4/5 | MRBM | Nuclear | ? | ? | ? | ? |

Source: The table is compiled by the author.

**Pakistan.** Pakistan closely cooperates with other countries to advance its nuclear weapon program. There are suspicions that Pakistan has been transferring the technology for the production and testing of nuclear weapons to the DPRK since 1997 in exchange for the MRBM technology. The missiles in question are Pakistan's Ghauri-1, 2 and 3 liquid-propellant missiles (test launched

[51] Pandit, R., op. cit.

[52] India Test-Fires Agni-V; Joins Elite Missile Club, *Deccan Herald*, 19 Apr. 2012.

[53] Pandit, R., 'India Quietly Gate Crashes Into Submarine-Launched Ballistic Missiles Club?', *Times of India*, 31 July 2012.

respectively on 6 April 1998 and 14 April 1999, and, possibly, on 15 August 2000[54]). According to some estimates, Pakistan's Ghauri-1 is a full copy of the North Korean Nodong missile, while Ghauri-2 and 3 are a combination of North Korean and domestic technologies[55].

The Shaheen missile family was developed with the help of China. Indeed, Shaheen-1 is a Pakistani version of the Chinese DF-15 missile. The first test launch of Shaheen-1 took place on 15 April 1999. At the military parade in 2000 Islamabad demonstrated the two-stage Shaheen-2 medium-range missile and a missile with a range of 2500 km capable of carrying a payload of 700 kg[56].

All Pakistan's missiles can carry both conventional and nuclear warheads, while the country's leadership, reportedly, decided to arm Hatf-1 and Hatf-2/Abdali missiles exclusively with conventional warheads. (Similarly, India uses conventional warheads on its Prithvi-1 and Prithvi-2 missiles)[57]. However, at the moment, Pakistan possesses barely enough nuclear warheads to arm 100 of the total of its 360 missiles (see Table 2). It is assumed that Pakistan is currently working to shift its nuclear weapon program from uranium enrichment to plutonium production[58].

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[54] Tronov, A.M., Lukoynov, A.K., 'Pakistan's means of delivery of nuclear weapons'. Institute of Middle East Studies. 17 May 2006, <http://www.iimes.ru/rus/stat/2006/17-05-06b.htm>.

[55] Pakistan and North Korea: Dangerous counter-trades, *IISS Strategic Comments*, November 2002, Vol. 8, Issue 9, p. 1; Cirincione, J., Wolfsthal, J.B., Rajkumar, M., *Deadly Arsenals: Nuclear, Biological, and Chemical Threats* (Washington, 2005), pp. 108-109.

[56] See note 54.

[57] Kumar, A., Vannoni, M., op. cit, p. 42.

[58] Moskalenko V., Topychkanov P. 'Nuclear Pakistan: Possibilities of Neutralizing the Threats to the NPT Regime', *Russia: Arms Control, Disarmament and International Security*. IMEMO Supplement to the Russian Edition of the SIPRI Yearbook 2009. Ed. by A. Arbatov, A. Kaliadine (Moscow: IMEMO, 2010), p. 135.

Table 2. Pakistan's ballistic missile capability, 2011

| Designation | Range, km | Payload, kg | Warhead | Entered service |
|---|---|---|---|---|
| Hatf-1 | 70-100 | 500 | Conventional | 1992 |
| Hatf-2 / Abdali | 180-260 | 250-450 | Conventional | 2005 |
| Hatf-3 / Ghaznavi | 400 | 500 | Nuclear | 2004 (?) |
| Hatf-4 / Shaheen-1 | >450 | 700-1000 | Nuclear | 1999 |
| Hatf-5 / Ghauri-1 | 1300 | 1,000 | Nuclear | 1998 |
| Hatf-5A / Ghauri-2 | 1500-1800 | 700 | Nuclear | 1999 (?) |
| Hatf-6 / Shaheen-2 | 2500 | 700 | Nuclear | 2005 (?) |

Source: The table is compiled by the author.

A conventional missile launched by any of the parties can be mistaken for a nuclear one and provoke the other side's nuclear response since Pakistan and India do not practice confidence building measures with regard to nuclear and conventional warheads on their missiles.

In peacetime, both India and Pakistan's nuclear forces remain dealerted. To make their nuclear forces operational, the two countries would need about the same time they would need to assess the consequences of the other side's missile strike. However, when the two states are in conflict and their nuclear forces may be put on alert, this scenario of a nuclear exchange by miscalculation seems more probable.

Of all Pakistan's missiles, only Hatf-6/Shaheen-2 MRBMs are capable of hitting targets in any part of India's territory. It is assumed that all the missiles of this type (over 10) are placed on launchers[59].

[59]Kristensen, H., 'Pakistani Nuclear Forces, 2007', 9 May 2007, FAS Strategic Security Blog, <http://www.fas.org/blog/ssp/2007/05/article_pakistani_nuclear_forc.php>. In 2007, Hans Kristensen assumed that Pakistan was preparing to deploy Hatf-6/Shaheen-2 missiles, in response to which Tasneem

Pakistan also possesses missiles with a range sufficient to threaten critical Indian military, administrative and industrial facilities including the country's capital New Delhi.

In addition to nuclear strikes against India's administrative and industrial centers, Pakistan presumably plans nuclear strikes against India's armed forces, including the use of nuclear weapons on its own territory in case of invasion[60]. This explains the diversity of Pakistani tactical missiles, including the developed Hatf-9/NASR missile. According to official data, this high-precision missile has a range of 60 km and is launched from mobile launchers which makes it possible to quickly change firing positions[61].

## Status and prospects for the development of nuclear arsenals of India and Pakistan

According to the International Panel on Fissile Materials, India may presently have 80-100 nuclear warheads, and Pakistan – 90-110. Both countries are capable of further building up their nuclear arsenals[62].

Both India and Pakistan strive to develop a nuclear triad using aircraft and ground-launched missiles as delivery vehicles for their nuclear warheads. Both develop SLBMs and sea-based launch platforms. Indeed, India has multipurpose Mirage 2000H fighters, which can deliver nuclear bombs. It is reported that Jaguar Shamsher tactical strike fighters and multi-purpose SU30MKI fighters can also be used for this purpose[63]. Pakistan can deploy its nuclear warheads on multi-purpose F-16A/B and Mirage 3/4

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Aslam, the spokesperson of the Pakistani Foreign Ministry, said: 'This is speculation which contains some truth and some fiction', *The Times of India,* 11 May 2007.

[60] Author's communication with a Pakistani government official who requested anonymity, Islamabad, 27 Oct. 2010.

[61] Press Release No. PR94/2011-ISPR. 19 Apr. 2011, ISPR – Inter Services Public Relations, <http://www.ispr.gov.pk/front/main.asp?o=tpress_release&id=1721>.

[62] International Panel on Fissile Materials, <http://fissilematerials.org/countries/india.html>; <http://fissilematerials.org/countries/pakistan.html>.

[63] Kile, Sh.N., Schell, Ph., Kristensen, H.M., 'Indian Nuclear Forces', *SIPRI Yearbook 2012: Armaments, Disarmament and International Security* / Ed. by Bates Gill (Oxford: Oxford University Press, 2012), p. 334.

fighters[64]. Some Indian experts believe that this role may also be assigned to Sino-Pakistani JF-17 multi-purpose fighters[65] equipped with Russian RD-93 engines[66].

Table 3. Fissile material production in South Asia, 2012

| Country | Uranium enrichment | | Plutonium production | |
|---|---|---|---|---|
| | **Facility** | **Total HEU stockpile (90%)** | **Facility** | **Total stockpile of weapon-grade plutonium** |
| **India** | Enrichment facility at the Bhabha Atomic Research Center (Rattehalli) | 0.22-0.56 t | The Bhabha Atomic Research Center (Trombay), Tarapur-1, Tarapur-2, Kalpakkam | 0.15±0.15 t |
| **Pakistan** | A.Q. Khan Research Laboratories (Kahuta); Gadwal, Golra and Sihala enrichment plants | 2.6 t | 'New Laboratories' of the Pakistan Institute of Nuclear Science and Technology (Nilore) | 100 kg |

Sources: International Panel on Fissile Materials, <http://fissilematerials.org>; Standing Committee on Defence & Defence Production, Senate of Pakistan.

[64] Ibid, p. 338.

[65] Pant, H.V., 'Pakistan Thorn in China-India-U.S. Relations', *The Washington Quarterly*, Winter, 2012, p. 85.

[66] 'Pakistan's Defense Ministry says JF-17s are better than Sukhoys', 11 Aug. 2010, <http://periscope2.ru/2010/08/11/2684>.

Pakistan is ready to arm its fighters with Ra'ad (Hatf-8) cruise missiles (CM) in the foreseeable future. The missile is currently undergoing a series of tests. According to official data, 'the state of the art of Ra'ad CM with Stealth Capabilities is a Low Altitude, Terrain Hugging Missile with high maneuverability. It can deliver nuclear and conventional warheads with great pin point accuracy'[67]. The Ra'ad CM can also become the main weapon system of the Naval Strategic Force Command (NSFC) established in May 2012[68]. It remains unclear whether sea-launched cruise missiles (SLCMs) are to be deployed on surface ships or on submarines. The latter appears less likely, as no open source mentions that Pakistan has carried out underwater missile test launches.

India repeatedly conducted such tests with the last of them held in March 2012, using a sub-surface platform. That was a test of the K-15 (Sagarika) SLBM with a range of 750 km and a payload of 500 to 1000 kg, according to different estimations. India is also working on the K-4 SLBM with a range of up to 3500 km and a payload of up to 1000 kg. These missiles can be deployed on the Arihant class submarines (their sea trial commenced in 2012). This submarine has four launchers and can carry 12 K-15 missiles or four K-4 missiles. Arihant was to enter service in 2012[69]. These plans can be implemented to a great extent thanks to the valuable experience India has acquired renting Russian multi-purpose Nerpa (Chakra) nuclear-powered submarine that entered service of the Indian Navy in 2012. It is used for training crews for Indian-made submarines[70].

Despite certain advances in the development of the air- and sea-based components of their respective nuclear triads India and Pakistan's nuclear capabilities continue to rely mostly on ground-

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[67] Press Release No. PR104/2011-ISPR. 29 Apr. 2011, ISPR – Inter Services Public Relations, <http://www.ispr.gov.pk/front/main.asp?o=t-press_release&date=2011/4/29>.

[68] Press Release No. PR122/2012-ISPR. 20 May 2012, ISPR – Inter Services Public Relations, <http://www.ispr.gov.pk/front/main.asp?o=t-press_release&date=2012/5/19>.

[69] Pandit, R., 'India Quietly Gate Crashes Into Submarine-Launched Ballistic Missiles Club?', *Times of India*, 31 July 2012.

[70] Yemelyanenkov, A., 'Nerpa enters the service of the Indian Navy', *Rossiiskaya Gazeta*, 4 Apr. 2012.

launched missiles which will continue to play a leading role in the future.

**Uncertainty of the nuclear doctrines of India and Pakistan**

Neither India, nor Pakistan has official nuclear doctrines. Still it is possible to get a general idea of their perception of the role of nuclear weapons from official statements and documents. In accordance with the decision of the Cabinet Committee on Security (CCS) dated 4 January 2003: 'India's nuclear doctrine can be summarized as follows: 1) building and maintaining a credible minimum deterrent; 2) a posture of 'no first use': nuclear weapons are to be used only in retaliation to a nuclear attack on Indian territory or on Indian forces anywhere; 3) nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage...'[71].

As Pakistani Prime Minister Nawaz Sharif said on 20 May 1999, 'nuclear restraint, stabilization and minimum credible deterrence constitute basic elements of Pakistan's nuclear policy'[72].

There are certain contradictions in India's and Pakistan's concepts of minimum credible deterrence:

- First, how India can match 'minimal deterrence' with the concept of having a capability for a massive retaliatory strike?
- Second, will India strictly comply with its no-first-use commitment, if it faces an imminent threat of nuclear attack before it deploys a BMD system or develops robust retaliatory capability?
- Third, would Pakistan abstain from building up its nuclear capability and raising its alert level in peacetime, if India deploys a BMD system and acquires powerful retaliatory strike capability relying on much shorter time of bringing forces to high operational readiness?

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[71] Cabinet Committee on Security Reviews Progress in Operationalization of India's Nuclear Doctrine, Press Information Bureau, Government of India, 4 Jan. 2003, <http://pib.nic.in/archieve/lreleng/lyr2003/rjan 2003/04012003/r040120033.html>

[72] Defence Journal. Jun. 1999,<http://www.defencejournal.com/jun99/ indian-offensive.htm>.

**Problems of arms control in South Asia**

India and Pakistan have no arms control agreements, despite having a mutual nuclear deterrence relationship and approximate parity of nuclear forces. This may be explained by the following reasons:

First, India and Pakistan are in the process of building up and modernizing their nuclear forces in pursuit of an advantage over each other and do not wish to be constrained by any agreed limitations.

Second, so far India has not viewed Pakistan as an equal state and is unwilling to legalize any equality with it through arms limitation agreements (which by definition imply equality of the parties).

Third, India's nuclear forces are directed both at China and Pakistan, and equal limitations for India and Pakistan would weaken New Delhi's position in the military balance with Beijing.

Fourth, Pakistan strives to secure advantages over India in nuclear forces in order to make up for India's overwhelming superiority in general purpose forces.

Fifth, India is unwilling to exchange even basic information with Pakistan on the composition and structure of its nuclear forces in order to prevent its leakage to India's other potential adversary, China.

Sixth, India and Pakistan declare their commitment to minimum credible deterrence, but they are unwilling to legalize their postures in any binding manner fearing that the other party may cheat or circumvent the limitations in some other manner.

At the same time, India and Pakistan have signed some agreements pertaining to confidence-building measures:

- the 1991 agreement banning attacks on nuclear facilities;
- the 2005 agreement on advance notice of BM tests;
- the 2007 agreement on the prevention of emergencies involving nuclear weapons.

Neither of these agreements provides for any verification mechanisms and procedures. It can be assumed that with the geographic vicinity of the two countries and high activity of the intelligence services, they feel no need for special verification mechanisms in certain spheres. For example, either country's

preparations for a missile test would hardly remain unnoticed by the other. Hence, both are ready to notify each other of a test to avoid any misinterpretation. Nevertheless, in the absence of agreed verification mechanisms, India and Pakistan are likely to undertake unilateral steps which may destabilize the military environment in the region.

The two states elaborated confidence-building measures most actively at the time of their Comprehensive Dialogue of 2004–2008. The idea of this dialogue was put forward by Pakistan in 1998 as part of the proposal to establish a 'Strategic Restraint Regime'. Although India did not accept the proposal, some of its components were reflected in the 1999 Lahore Declaration. The document contains a provision that the two Governments shall take immediate steps to reduce the risk of accidental or unauthorized use of nuclear weapons and discuss concepts and doctrines with a view to elaborating measures for confidence building in the nuclear and conventional fields, aimed at the prevention of a conflict.

The 2005–2007 bilateral agreements on confidence-building measures came as a direct result of the Comprehensive Dialogue which was phased out after the 2008 terrorist attack on Indian city of Mumbai as India accused Pakistan of supporting the terrorists. The Dialogue resumed in 2012, but has not so far brought about the discussion of 'concepts and doctrines with a view to elaborating measures for confidence building in the nuclear and conventional fields'.

## Conclusions

As India and Pakistan develop their strategic capabilities, they continuously review key principles of their nuclear posture, primarily, the principles of minimal credible deterrence. Both qualitative and quantitative characteristics of Indian and Pakistani nuclear arsenals change incessantly.

Although India is committed to a no-first-use posture, and plans only retaliatory strikes, its nuclear forces are hardly survivable and reliable enough to endure potential adversary's nuclear attack.

India is applying huge resources for developing a nuclear force capable of mounting a retaliatory strike against major political, economic and military targets on the territory of potential

adversaries: Pakistan and China, under any circumstances. India is probably planning to develop a non-nuclear counterforce capability against Pakistan, as well as a BMD system.

In contrast to India, Pakistan plans to use its nuclear weapons not only against political and economic centers, but also against conventional forces on India's territory, or on Pakistan's own territory, should they invade.

There is a danger that India's expanding capabilities in both defensive and offensive arms may provoke an asymmetric response on the part of Pakistan, including sabotage and terrorism. Pakistani experts realize that such response would have an extremely destabilizing effect, but this choice can be driven by internal factors and implemented despite the experts' opinion.

To prevent a worst case scenario India and Pakistan should (with the help of third states) pay most serious attention to preventing conflicts between the two countries with a special emphasis on the prevention of a possible use of nuclear weapons.

To this end, the two countries could provide for partial transparency of their nuclear forces with regard to their capabilities and location, for example, by signing a verifiable agreement on the non-deployment of nuclear weapons in the border areas. Even if such an agreement makes no military sense (as it can quickly be reversed in a crisis situation), politically, it could have a positive effect on the Indo-Pakistani bilateral relations.

The two countries could also contribute to reducing the risk of a nuclear conflict by agreeing on mutual obligations not to deploy nuclear weapons in disputed areas.

These goals can also be achieved through mutual de-alerting of tactical missiles (i.e. through legal obligations to observe the existing practice of separate storage of nuclear warheads and their delivery means) and notifying any changes to this status in case of military exercises. This would not affect Indian and Pakistani ability to unilaterally change the level of alert of their MRBMs, and possible future ICBMs which they can target against each other and states outside South Asia.

India and Pakistan could also officially adopt national nuclear doctrines providing for a no-first-use of nuclear weapons, which would contribute to strengthening stability in the region. So far Pakistan has found it unacceptable due to India's advantage in

general purpose forces (in fact, Russia and Israel are guided by the same doctrinal logic).

Therefore, a future comprehensive military settlement will also require agreements limiting quantitative levels and location of the parties' general purpose forces, and envisage confidence-building and transparency measures. Many elements of the experience of the US, Russia and China in limiting conventional forces and arms in Europe and along the Russian-Chinese border could be used in South Asia.

It goes without saying that such agreements could be attained only after the parties have settled their territorial dispute and other issues of bilateral relations.

## 4. SMALL ARMS, BIG PROBLEMS

Natalia KALININA

'Firearms: Small arms, big problems' – the UN Secretary General Kofi Annan said that back in 2001[73], but his words still resonate today. Expanding further, Kofi Annan also noted in one of the reports: 'The death toll from small arms dwarfs that of all other weapons systems. In terms of the carnage they cause, small arms, indeed, could well be described as 'weapons of mass destruction'. However, despite all that, and unlike in the case of chemical, biological and nuclear weapons, the world has not come up with any global treaty which would curtail the proliferation of small arms worldwide.

In his address to the UN Security Council in 1999, Kofi Annan called the efforts to constrain small arms proliferation 'one of the key challenges in preventing conflict in the next century'.

It is hard to disagree with this statement, and the survey findings below will further prove the point.

### The conflict potential of SALW

There is no single common definition of small arms and light weapons (SALW) accepted by the academics worldwide nowadays. The majority of researchers rely on the definition formulated by the Group of Governmental Experts (GGE) on Small

[73] <http://unclef.com/russian/conferen/SmallArms/brochure.htm>, 10 July 2001.

Arms. This definition identifies small arms and light weapons as 'manufactured to military specifications for use as lethal instruments of war'[74]. Small arms and light weapons are used by all armed forces, including internal security forces, for, inter alia, self-protection or self-defence, close or short-range combat, direct or indirect fire, and against tanks or aircraft at relatively short distances.

Broadly speaking, light weapons are the types of weapons that are fit for transport on a person, pack animal or light vehicle, and small arms are the firearms carried and fired by one person. Or, in other words, small arms are individual weapons, whereas light weapons are the weapons for group use, designed to be deployed by a unit.

SALW are further broken down to sub-categories:

**Small arms** include: I – revolvers and automatic pistols, II – rifles and carbines, III – submachine guns, IV – assault rifles, V – light machine guns, VI – other (ammunition, barrels and other parts).

**Light weapons** include: I – heavy machine guns, II – man-portable under-barrel and mounted grenade launchers, III – anti-tank rifles and grenade launchers, IV – recoilless rifles, V – man-portable air defence systems (MANPADS) and anti-tank guided missiles (ATGM), VI – below 75 mm calibre mortars, VII – other weapons (light anti-aircraft guns, 30 mm automatic cannons – 2A42 and other parts).

The modern history gives plenty of evidence that small arms and light weapons have been used in majority of modern conflicts. They are extensively employed in interstate and regional conflicts and are the weapon of choice in any civil war, as well as in acts of terrorists, criminal gangs or hijackers.

According to the World Bank[75], a quarter of the world's population – more than 1.5 billion people – live in volatile countries affected by conflict or states with large-scale, organized criminal violence[76]. This being said, the conflicts are often not one-off

[74] UN Document A/52/298, Appendix.

[75] 'The World Development Report 2011: Conflict, Security and Development', Apr. 2011, <http://www.un.org/ru/development/surveys/docs/worlddev2011.pdf>.

[76] The fragile states and conflict-affected countries are defined as the countries with: (1) 10 violent deaths per 100 000 population per year; (2) large-

events, but rather on-going and repeated: 90% of the civil wars in the last decade happened in countries that had already had a civil war in the last 30 years.

New forms of conflicts and violence, where SALW dominate, threaten the development.

Many countries, such as Guatemala, El Salvador and South Africa that have successfully negotiated political and peace agreements putting an end to violent political conflicts, are now facing a wave of criminal violence fuelled by SALW. New forms of conflict, taking their roots in a multiple links between local political conflicts, organized crime and armed conflicts having the repercussions at the international level, constrain the development of such states and send the shockwaves around the world.

A study by the World Bank in 18 Western European countries revealed that each additional transnational terrorist incident reduced their economic growth by 0.4 of a percentage point a year[77].

A terror attack in one region affects world markets. For instance, in the four weeks following the beginning of the uprising in Libya, oil prices increased by 15%.

It is a known fact that it takes 20 years for trade levels to recover after major outbursts of violence. In other words, a major episode of violence, unlike natural disasters or economic cycles, can wipe out an entire generation of economic progress.

The whole abundance of factors leading to military conflicts could be tentatively broken into 4 major groups: unsettled national borders and territorial disputes between countries; uneven distribution of natural resources in the region, such as fossil fuels and fresh water; ethnic, sectarian, regional or tribal divides; socio-economic problems leading to social unrest and economic disruption.

Weapons and military equipment supplies to the fragile countries and regions, including SALW, even made legally, create

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scale civil conflicts (more than 1000 battle deaths a year); (3) active peacekeeping missions or peacekeeping operations mandated by the UN or regional organizations; and (4) countries with low income and institutional capacity, which, however, have a high risk of violence.

[77] 'The World Development Report 2011'...

perfect conditions for new armed conflicts of maintaining the existing ones.

The areas of crisis and conflict receive SALW supplies from various sources, often in small shipments, which then grow in a steady flow of arms, which frequently becomes a trigger for a conflict.

Since 1990, SALW were the main tools of warfare in 46 of 49 large conflicts, causing in total over 4 million violent deaths, of which around 90% were civilians and 80% were women and children.

Approximately 80% of UN member-states do not have effective laws or regulations to govern arms brokering to ensure viable arms exports[78], while there is practically no control over the end use of SALW[79]. Moreover, virtually 100% of SALW exports cases did not show any ammunition deals, although it is ammunition supplies that make small arms useable.

In Iraq, the loss of control over millions of small arms and light weapons, ammunition and explosives helped undermine the stability of an entire country[80].

According to Center for Defense Information[81], between 2008 and 2009, the world saw 14 major conflicts[82]. In 2010, there were 24 armed conflicts of varying intensity. There were already 26 conflicts in 2011, majority of which extended into 2012[83]. Table 1 below provides a geographical distribution of armed conflicts as of early 2012.

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[78] United Nations Institute for Disarmament Research (UNIDIR), Developing a Mechanism to Prevent Illicit Brokering in Small Arms and Light Weapons, 2007.

[79] The Small Arms Survey. Small Arms Survey 2008, chap. 5, <http://www.smallarmssurvey.org>.

[80] The Small Arms Survey, Small Arms Survey 2004, chap. 2, <http://www.smallarmssurvey.org>.

[81] Planet of Conflicts. Marketing and Consulting (Moscow), 25 Feb. 2009; <http://www.rusarm.ru/news/lenty/lenta_09_02_26.html>; <http://www.samoupravlenie.ru/35-12.php>.

[82] A large conflict is defined as a conflict in which more than 1000 people have been killed during fighting.

[83] A comprehensive database of armed conflicts since 1946 is available at the Uppsala University (Sweden) web-site of <www.ucdp.uu.se/database>.

Table 1. Geographical distribution of armed conflicts, 2012

| Region | Number of countries in region | Number of conflicts in region | Number of countries involved in conflicts |
|---|---|---|---|
| Africa | 50 | 10 | 10 |
| Asia | 42 | 9 | 6 |
| Europe | 42 | 1 | 1 |
| America | 44 | 1 | 1 |
| Middle East | 14 | 5 | 5 |
| Total | 192 | 26 | 23 |

Source: Table is based on 'Armed Conflicts 2011', <http://www.ploughshares.ca/images/pdf/ACR2012poster.pdf>.

The following armed conflicts listed in Table 1 pose the most serious threat to international security.

**In Africa**: The Democratic Republic of Congo has been pursuing a policy against tribal armed groups and foreign mercenaries. Nigeria has been experiencing periodic surges of ethnic and sectarian conflicts since 1970. The conflict in Somalia has been active since 1978 and is rooted in ethnic grievances and criminal activities.

Since 1983 Sudan has been fighting the Sudan People's Liberation Movement (SPLM) and Justice and Equality Movement (JEM), and the conflict has been escalating (many experts classify Darfur crisis as genocide); Sudan and South Sudan have been in conflict since 2011 (immediately after South Sudan gained independence) over the oil fields and the transportation infrastructure. Since 1986 Uganda has been fighting against the Lord's Resistance Army – a militant fundamentalist Islamic movement, which had been trying to seize the power in the country, and Sudan caught up in the conflict with its support of the Lord's Resistance Army.

Since early 2010 the crisis has been escalating in Yemen, which has been a scene of continuous violent fighting between the government forces and Shia insurgency in Saada province[84].

[84] More on the conflict in Yemen and it roots in: Satanovsky, Ye., 'A powder keg for a future catastrophe in Middle East. Yemen – a country where anyone is willing to fight with everyone', *Voyenno-Promyshlenniy Kuryer*.

Yemen has been receiving the attention of the international community because the country virtually became an Al-Qaeda's stronghold in the region, where the country elite's revenues from gun trafficking are second only to oil exports.

Anyone with the means can buy air-to-air or ground-to-air missiles, MANPADS, tanks, armoured vehicles, grenade launchers, mortar launchers, submachine guns, machine guns, hand guns and, certainly, ammunition. There has been an additional focus on Yemen because of its strategic geopolitical location, which essentially gives the country a full control of the Gulf of Aden. In total, around 20 000 vessels sail through the Gulf of Aden bound for the Suez Canal, carrying oil for the European Union and the US customers as well as shipping commercial items from South and South-East Asian manufacturers. Western intelligence services have been increasingly cautioning the Gulf nations against the threats this country poses for the navigation in the region.

**In Asia:** Iraqi government and international forces have been combating Iraqi insurgents and Al-Qaeda terrorists since 2003. Israel has been battling various terrorist groups (Hamas, Hezbollah, Palestinian Islamic Jihad and others) since 1975.The Afghan government has been fighting the Taliban and Al-Qaeda since 1978. India has been trying to suppress Kashmiri separatist movement since 1986. Sri-Lanka has been fighting a war with the Liberation Tigers of Tamil Eelam secessionist movement since 1978.

**In Europe**, there is dormant (after a 'hot' phase of the Georgian–Ossetian conflict that evolved into a war and Russian military involvement) conflict in breakaway Abkhazia and South Ossetia which went on to proclaim independence of Georgia.

**In Latin America**: Colombia has been involved in the fight with the Revolutionary Armed Forces of Colombia (FARC) insurgency since 1964, where the conflict has been in the active phase since 1978. In addition, the country has strained military and political issues with Venezuela which can instantly escalate into a full scale military standoff any anytime.

**In the Middle East:** a wave of the Arab Spring revolutions toppled the ruling regimes in Tunisia, Egypt, Libya and Yemen.

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15 Sep. 2010; Skosyryev, V., 'The US is drawn into a war in the Arabian peninsula', *Nezavisimaya Gazeta*. 17 Sep. 2010, <http://www.ng.ru/world/2010-09-17/7_ yemen.html>.

Civil uprisings of varying intensity swept through Bahrain, Algeria, Iraq, Jordan, Kuwait, Morocco, Mauritania, Oman, Saudi Arabia, Sudan, Western Sahara and Palestine. The Syrian bloody civil war has been still raging in 2012[85]. The Israeli-Palestinian standoff resumed in November 2012, sending ripples through the region. The Arab Spring has been turning into an 'Islamist Winter'. The euphoria of success quickly gave way to a bitter infighting between the fellow revolutionaries.

These circumstances created an imminent threat of the destabilization spread into other Arab countries, creating a domino effect.

There are a few dozens of armed conflicts in the world now where the conflict intensity, for their individual reasons, has been cyclic (the so called 'frozen' conflicts).

Because the actual issues at heart of frozen conflicts have never been resolved, any of these hostilities can flare any time again under the right circumstances. In Europe it will be Georgia versus Abkhazia and South Ossetia. In the Middle East it is Israel versus Syria and Libya; Israel against Egypt; Israel against Iran; Iran and Turkey against the Kurds. In Asia it is India's separatists in Assam and Manipur; Myanmar (Burma) fighting various armed units of ethnic minorities; Nepal against Maoist insurgency; China against separatists in Xinjiang; Philippines against Abu Sayyaf and the New People's Army terrorist groups; Thailand's separatist movement in the southern provinces.

In Africa – Cote d'Ivoire's government against armed opposition groups; the Central African Republic against insurgency; Chad against insurgency; Ethiopia against Eritrea; Zimbabwe's government against the opposition. In the American continent, it is Haitian government against various opposition groups[86].

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[85] More about the causes of conflicts in the Middle East and how the conflicts evolve on the Institute of the Middle East web-site: <http://www.iimes.ru/index.html>.

[86] More about the current and frozen conflicts and their trends: Planet of Conflicts. Marketing and Consulting (Moscow), 25 Feb. 2009, <http://www.rusarm.ru/news/lenty/lenta_09_02_26.html>, as well as in SIPRI Yearbooks in sub-sections of 'Trends in armed conflicts'. See updates on the armed conflicts at the specialized web-site. See: <http://www.pcr.uu.se>. Some information about the ongoing armed conflicts in 37 countries is available in the UNDP 2011 Report,

According to the international law, the ultimate way to address the local armed conflicts where the weapons transfer has been a contributing factor, is to impose various sanctions: such as financial and trade sanctions, arms embargos, international travel and air shipments ban.

It is a general understanding that the most effective way is to embargo arms sales to either conflicting party[87].

As of mid-2012, UN arms embargoes, including SALW embargo, have been imposed on such organizations as Al-Qaeda, Taliban, as well as Democratic Republic of Congo, Iraq, Iran, North Korea, Cote d'Ivoire, Lebanon, Liberia, Libya, Somalia, Sudan, Eritrea[88].

A close review of the reports released by the UN Sanctions Committees indicates that arms embargoes have not been able to stop an armed conflict which has been fuelled either by the fact that the arms have been changing hands between one conflicting party or the other, or illicit arms purchases made through third parties or other forms of illicit arms trafficking.

According to the report prepared by the Stockholm International Peace Research Institute (SIPRI)[89], arms embargoes have been more or less successful in 25% cases, in other words, in most cases this conflict resolution tool has not been able to prevent or stop an armed conflict of the regional and/or domestic nature, where the legal or illegal supplies of SALW were the burning fuse.

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<http://www.undp.org/content/dam/undp/library/crisis%20prevention/UNDP%20Rule%20of%20Law%20Annual%20Report%20IN%20BRIEF%20.pdf>.

[87] To impose an arms embargo, UN Security Council issues a resolution under Article 41 of the UN Charter. The draft resolution is considered adopted when at least 9 out 15 Council members votes in favour, including 5 permanent members of the Security Council.

[88] See: <http://www.un.org/russian/sc/committees>. See complete arms embargoes database at: Arms Embargoes Database, <http://www.sipri.org/databases/embargoes>.

[89] *United Nations Arms Embargoes.Their Impact on Arms Flows and Target Behavior*. A report by D. Fruchart, P. Holtom, S.T. Wezeman, D. Strandow and P. Wallensteen, SIPRI 2007.

**Global trade in SALW**

There are two reasons why we cannot have an accurate estimate of SALW sold worldwide. First of all, few countries selling arms publicize data on SALW deals. Secondly, it is virtually impossible to trace arms leaking from the legal into the illicit market. Equally, SALW sales through 'grey' and 'black' markets, including arms sold through third parties or arms 'leaking' from legal owners (government agencies and services) to illegal armed groups, such as terrorist networks.

According to most authoritative international sources[90] in 2002 the world had an estimated 639 million firearms in circulation. This estimate placed 37.8% of arms in possession of national armed forces, 2.7% owned by the law enforcement and police, 0.2% were in hands of the rebel groups and 59.2% were in civilian possession.

In 2002 the estimated total cost of small arms and ammunition manufactured worldwide was about $7.4 billion, where 13 countries dominated the global export market in SALW: Austria, Belgium, Brazil, the UK, Germany, Israel, Spain, Italy, China, Russia, the USA, France and Switzerland.

UN documents showed different numbers for 2008. For instance, according to the report, Congolese representative R. Mabundu presented to the UN Security Council, there were 870 million SALW units in circulation worldwide in 2008[91], resulting in

[90] Small Arms Survey (SAS) – The Small Arms Survey is an independent research project located at the Graduate Institute of International and Development Studies in Geneva, Switzerland. It serves as the principal international source of public information on all aspects of small arms and armed violence and as a resource for governments, policy makers and researchers. The project involves a team of international experts in security studies and conflict resolution, political science, law, economics, criminology, sociology and many other areas and in cooperation with the worldwide network of researchers and partners. The project has a web-site which, among many other publications, has been posting yearbooks with updates on small arms since 2001. Yearbooks are available at: <http://www.smallarmssurvey.org/publications/by-type/yearbook.htm>.

[91] Other sources estimate (See: UN Deputy Secretary General Jan Eliasson opening address to the Second Review Conference on the United Nations Programme of Action on the Illicit Trade in Small Arms and Light Weapons for a detailed overview of the Programme progress, 27 Aug.–7 Sep. 2012) more than 500 000 people are killed every year by firearms.

740 000 violent deaths every year[92]. The countries not involved in the conflicts or engaged in a civil war have also been losing around 200 000 people every year to suicides and crime involving small arms. Besides, the available information estimates at least two million people have been wounded by small arms in the last decade in the countries not involved in any armed conflict.

The UN Secretary General estimated the value of the global authorized trade in small arms and light weapons and ammunition was over $7 billion per year in 2011[93].

By the year 2012, SAS estimates[94], the world has accumulated at least 875 million firearms with 8 million more new guns manufactured every year worldwide. Of the total number of firearms available now worldwide only around 42% are owned by the national military, 3–4% in national law enforcement, with over a half (55–60%) of all guns in the world are in civilian private ownership and around 1% are in the hands of non-governmental groups, rebels and illegal armed movements.

Every minute someone is killed in an armed conflict by firearms and many more suffer injuries. The statistics needs no explanation: total firearms ammunition manufactured worldwide reaches staggering $14 billion which is around two rounds per every human in the world; and approximately 1 million firearms change hands in thefts or are lost[95].

An explosive combination of firearms' availability and economic recession or political crisis often led to situations when dormant rivalries escalated to violent armed hostilities. This is exactly what happened in Transcaucasia in the early 1990s. After the former Soviet army property was divided up in the early 1990s and Russian troops withdrew, the new independent states found themselves the owners of around 260 000 SALW. The Balkans – after around 630 000 firearms had been stolen from the government army depots in Albania in 1997, the guns became easily available and dormant ethnic hostilities in Kosovo and Macedonia escalated to an armed conflict.

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[92] UN Document S/PV.6288 (Resumption 1) distributed 19 Mar. 2010.

[93]Report of the UN Secretary General on small arms. UN Document S/2011/255 distributed 5 Apr. 2011.

[94] Small Arms Review 2012: Moving targets, <www.smallarmssurvey.org>.

[95] More on the same topic: <http://amnesty.org.ru/controlarms-info>.

Legal SALW trade can also contribute to conflicts, when the deals are clearly in conflict with the principles of arms sales to be adequate to meet the importing state's needs. For example, in 2001, the USA handed 44 thousand automatic firearms over to the Estonian armed forces of 4 thousand servicemen (11 guns for each soldier). Hence a reasonable question: why did it happen, is not it an obviously destabilizing factor?

Arms are the prime business for around 1200 private companies in more than 90 countries in the world. The leading global SALW exporters making up to $100 million revenue from guns sales are, in descending order, the USA, Italy, Germany, Austria, Japan, Switzerland, Russia, China, France, South Korea, Belgium and Spain.

New countries joined the club of leading SALW manufacturers recently – Brazil, India, Israel, Pakistan, Egypt, Taiwan, South Africa and South Korea.

Although neither the USA nor Russia open their SALW export information to public, the estimates indicate that the US exports around 40% of small arms and light weapons sold worldwide, the Russian Federation exports around 7% of the world's firearms. The European Union (EU) maintains the leading positions in the world SALW exports. For example, there are 67 million firearms in the private ownership in the EU, or, in other words 17 guns for each 100 Europeans. (Civilians own between 238 and 276 million guns in the US, which is roughly one gun for each resident).

The largest importers of SALW, each with at least $100 million in firearms imports a year, are the USA, UK, Saudi Arabia, Australia, Canada, Germany, France, Middle East and North Africa.

Although the information above is based on the available official customs data, a lack of transparency in arms exporting reports of large and small exporters, there is little confidence in the accuracy of the numbers, because importing states often prefer to keep the details of large SALW deals undisclosed.

The available assessments of government's transparency in SALW exports and imports generally provide reliable information about Europe and North America, which cannot be said about Africa, Asia and the Middle East. Thus, according to the annual transparency ratings by the Graduate Institute of International and Development Studies in Geneva, with maximum transparency in

SALW exports rated at 25 points, the average rate among the 52 countries which provided any type of reporting was 11.2 in 2011, which is almost 2 points down from the previous year. The best transparency was demonstrated by Switzerland (21.0), UK (19.75) and Romania (19.0). The USA was ranked 14th (15.0), Ukraine was 40th (8.0) and China was ranked 45th (7.0). Russia's transparency in SALW deals was ranked very low. It is at the bottom of the 'List of 52' rated 47th. Lower than Russia's rates were only Saudi Arabia's (2.75), South Africa's (2.0) and three countries with 'zero' transparency – Iran, North Korea and the UAE[96].

The transparency of firearms proliferation deteriorates further once we combine the general picture of SALW in circulation with the illicit SALW trafficking which, according to reliable sources, is estimated at least $3-4 billion annually, as well as one million of firearms leaking into the black market.

Only 50–60% of the world's firearms trade is legal, with the rest sold in grey or black market deals. Afghanistan, for instance, has about 10 million illegal firearms, West Africa – around 7 million guns and Central America – around 2 million firearms[97]. The threat of illegal proliferation of small arms became especially serious when firearms became cheap: in some regions of the world you can get an AK-47 for a bag of corn, which is roughly $20–30. It is important to note the connection between the trafficking in firearms and the illicit drug trade, which the United Nations Office on Drugs and Crime traced in the reports[98].

There are multiple ways to leak the firearms into the black markets and illicit circulation. The major sources of new illegal guns are: a) domestic leaks due to theft, corrupt officials or a collapse of the government gun control system; b) forged end user certificates or breach of end use agreements; c) transfer of small amounts of legally purchased firearms from one state to another;

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[96] Ibid.

[97] More in: *'Russia's military and technical cooperation with foreign countries: fundamentals, problems and prospects'*. Ed. by N. Kalinina (Moscow. IMEMO RAS, 2010), pp. 70-77.

[98] Read the latest updates in the Review of the implementation of the United Nations Convention against Transnational Organized Crime and the Protocols thereto: Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition. UN Document CTOC/COP/2012/12 of 8 Aug. 2012.

d) government firearms supplied to non-governmental groups or countries affected by arms embargo imposed by the UN Security Council, or some other sanctions; e) firearms captured on the battlefield (military trophies). The most popular route to traffic SALW and ammunitions is the 'ant trade'[99].

A classic example of illicit firearms trade are reports of unlicensed, i.e. illegal, manufacture of small arms and light weapons of Russian design, which was a widespread practice, and in some cases still is, in many former member states of the Warsaw Pact and Middle Eastern, African, Asian regimes formerly affiliated with the USSR.

Such unlicensed production of firearms includes:7.62 mm Tulsky-Tokarev (TT) hand gun designed in 1930 was in mass production in China (until mid-1980s), Albania, North Korea; 9 mm Makarov hand gun designed in 1951 is still manufactured in China, North Korea, was previously manufactured in Poland, Bulgaria, and Romania; 7.62 mm Sudayev submachine gun (PPS) designed in 1943 was in mass production in China, North Korea, East Germany, and Yugoslavia; 7.62 mm Simonov self-loading carbine designed in 1945 is still produced in China, and was manufactured earlier in Hungary, Czechoslovakia, Poland, Bulgaria, Romania, Vietnam, North Korea, Cuba, and Egypt; 7.62 mm Kalashnikov designed in 1947 and 5.45 mm Kalashnikov submachine gun designed in 1974 were in production or are still manufactured in around 30 countries; 7.62 mm Degtyaryov machine gun designed in 1946 (RP-46 variant) was manufactured in China, North Korea, Cuba, Poland, and Hungary; 7.62 mm Degtyarev light machine gun designed in 1944(RPD) was produced in China, North Korea, Vietnam, and Egypt; 7.62 mm Kalashnikov assault rifle designed in 1961, 7.62 mm Kalashnikov general-purpose machine gun designed in 1961, 5.45 mm Kalashnikov light machine gun designed in 1974 are still manufactured in China, North Korea, Poland, Hungary, Bulgaria,

[99] The 'ant trade' is numerous shipments of small numbers of weapons that, over time, result in the accumulation of large numbers of illicit weapons by unauthorized end users. These ways of SALW transfer from the legal to illicit circulation have been clearly identified, for instance, in 'Small Arms Survey 2012: Moving Targets' (<www.smallarmssurvey.org>), which analyzed the data on 80 000 illicit firearms used in Afghanistan, Iraq and Somalia, which generally were the versions of assault rifles such as Kalashnikov submachine gun (versions of Soviet and Chinese arms designed a few decades ago).

Romania, Syria, and earlier were produced in Egypt, Yugoslavia, Czechoslovakia; 7.62 mm Dragunov sniper rifle (SVD) is in production in China, North Korea, Poland, and was earlier produced in Czechoslovakia, Yugoslavia; 12.7 mm Degtyaryov-Shpagin heavy machine gun designed in 1939 (DShK) was in production in China, North Korea, Pakistan, Iran, Iraq, and Czechoslovakia; 14.5 mm Vladimirov heavy machine gun (KPV) designed in 1949 is in production in China (including the anti-aircraft modifications), and was earlier made in Czechoslovakia; 23 mm anti-aircraft twin-barrelled auto-cannon is produced in China, Poland, was earlier manufactured in Czechoslovakia, Egypt, Iraq, Finland; portable anti-tank grenade launchers RPG-2 and RPG-7, tripod-mounted grenade launcher SPG-9 is currently manufactured in China, North Korea, Vietnam, was earlier made in Czechoslovakia, East Germany, Yugoslavia, Iraq, Libya, Egypt, and India; portable surface-to-air missile systems Strela-2.3 was manufactured in China, Poland, East Germany, Bulgaria, Egypt, Romania, and Yugoslavia; portable anti-tank guided missile systems Malyutka and Fagot was in production in China, Poland, Czechoslovakia, East Germany, Egypt, Iraq, and India; 82 mm calibre mortar launchers are still produced in China, North Korea, were earlier manufactured in Czechoslovakia, Hungary, Poland, and Romania; 82 and 107 mm recoilless rifles B-10 and B-11 were in production in China, North Korea, and Syria[100].

Various versions of Kalashnikov submachine gun are the most massively counterfeited guns in the world. The illicit trade in Kalashnikovs was so staggering that the designer appealed to the UN member states to make any effort to stop this proliferation[101].

Summarizing a brief overview of licit and illicit circulation of small arms and light weapons, we should remember UN Secretary General Ban Ki-moon's address to the United Nations General Assembly on 19 September 2012, which discussed the new

[100] Based on: Gubin, A., *'Russian small arms and light weapons: unlicensed production abroad. Report'* (M.: Human rights, 2007), p. 84.

[101] See address by M. Kalashnikov to participants and guests at the 2006 Review Conference on the United Nations Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons, New York, 26 June–7 July 2006. For reference: according to JSC Rosoboroneksport, which is the only authorized arms dealer in Russia, $2 billion is lost to illicit trade in Kalashnikovs every year.

United Nations peacekeeping initiative – Culture of Peace: 'World leaders should understand that huge spending on military weapons at the expense of health and education are the primary cause of conflicts leading to more suffering in the world. The world spends almost twice as much on weapons in one day than the United Nations spends for our global mission of peace, human rights and development in one year'. The Secretary-General also noted that global spending on weapons totaled at over $1.7 trillion in 2011.

**International reporting on SALW**

The only international tool to trace the legal circulation of SALW is reporting in the UN Register of Conventional Arms (hereinafter – the Register)[102].

Since the UN General Assembly recommendations to voluntarily report SALW trade deals have been approved in 2003, the Register can only offer the arms transfer information on a handful of countries so far. For instance, only five states provided their arms exports data in 2003, six – in 2004, and five countries reported in 2005. After new standard reporting forms have been introduced in 2006, there was a moderate increase of SALW export reporting. However, the available numbers are still a long way from a true scale of SALW in circulation globally. Table 2 summarizes the current status.

[102] More about the history of the Register and its milestones in the report prepared by the Group of the governmental experts 'Study on ways and means of promoting transparency in international transfers of conventional arms'. UN Document A/46/301 UN General Assembly published on 9 Sep. 1991.

Table 2. Consolidated reporting on international transfers of SALW and military weapons and equipment

| Type of export | Total of reporting states for the following years[103]: | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011[104] |
| Weapons and military equipment | 115 | 117 | 117 | 113 | 91 | 80 | 70 | 36 |
| SALW[105] | 6 | 5 | 18 | 27 | 23 | 19 | 22 | 14 |

In the last two years the following countries joined the reporting contributors to the Register and reported their SALW data: 1) 2010 – Andorra, Austria, Australia, Bosnia-Herzegovina, Bulgaria, the UK, Hungary, Germany, Greece, Canada, Liechtenstein, the Netherlands, South Korea, Romania, Serbia, Slovakia, Switzerland, Trinidad and Tobago, Turkey, Ukraine, Croatia and Czech Republic; 2) 2011 – Albania, Australia, Chile, France, Lithuania, Netherland, Norway, Poland, Slovakia, Slovenia, the UK, Bulgaria, Romania, Sweden, in other words, only14 new countries.

The Register is essentially a statistical tool which cannot, however, offer any way to analyze the destabilizing potential even the reported legal SALW trade can have. To prove the point, suffice is to show some selected abstracts from the official national reports

[103] Based on UN reports: Reporting on international transfers of SALW. Distributed 15 Dec. 2010, United Nations Register of Conventional Arms, <http://www.poa-iss.org/UNRegister/2010%20SALW%20reporting%20to%20 UN%20Register.pdf>.

[104] Annual reports and other related information about the UN Register of Conventional Arms is available on the United Nations Office for Disarmament Affairs' web-site: <http://www un.org/disarmament/convarms/Register>. 2011 data may be updated later, if other states report in the end of 2012 or early 2013. At any rate, analysis indicates the reports were sometimes overdue for months or even a year.

[105] The numbers included only the countries reporting SALW exports to the Register. Keep in mind though, there are around 90-100 SALW exporting countries in the world in total.

contributed to the Register and covering exports of various types of SALW in the last three years.

The following countries reported exports of small arms and light weapons to currently fragile or potentially unstable countries:

**2009:**

Bulgaria exports to Honduras, Yemen, Pakistan, Afghanistan, Nigeria, Botswana, Guinea, Ethiopia, Iraq, and Congo; Bosnia-Herzegovina exports to Yemen.

The UK exports to Bahrain, Barbados, Kenya, Qatar, Pakistan, Zambia, Trinidad and Tobago, Bahrain, Ghana, Lebanon and Tanzania.

Germany exports to Bahrain, Bhutan, Chad, Qatar, Uruguay and Haiti.

Denmark exports to Botswana, Ethiopia and Zambia.

Spain exports to Ecuador.

Norway exports to Afghanistan.

Romania exports to Liberia and Benin.

Serbia exports to Afghanistan, Cameroon, Bahrain, Namibia, Pakistan, Rwanda, Uganda, Congo and Ghana.

Ukraine exports to Georgia, Sri Lanka, Kenya, Lebanon, and Chad.

Switzerland exports to Qatar, Brunei, Lebanon and Kuwait[106].

**2010:**

Austria exports to Algeria, Afghanistan, Zambia, Jordan, Iraq, Egypt, Qatar, Kenya, Kuwait, Namibia, Nicaragua, Oman, the UAE, Paraguay, Peru, Salvador, Saudi Arabia, Uruguay and South Africa.

Bulgaria exports to Algeria, Afghanistan, Yemen, Uganda, South Africa and Ethiopia.

UK exports to Afghanistan, Bahrain, Georgia, Zambia, Jordan, Iraq, Kenya, Kuwait, Oman, the UAE, Saudi Arabia and Tanzania.

Germany exports to Bahrain, Qatar, Kuwait, Oman, the UAE and Saudi Arabia.

Hungary exports to Saudi Arabia.

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[106]See more about the numbers and categories of SALW sold to the above countries and other states not considered fragile, in the UN Document A/65/113, issued 15 June 2010.

Canada exports to Saudi Arabia and Uruguay.

Netherland exports to Kenya and South Africa.

Turkey exports to Guatemala, Honduras, Georgia, Zambia, Iran, Egypt, Colombia, Namibia, Salvador, Syria, Pakistan, Tanzania, Uruguay, Guatemala and South Africa.

Ukraine exports to Kenya, Congo, Pakistan, and Uganda[107].

**2011:**

Australia exports to Pakistan, Papua New Guinea, Samoa, South Africa, Tonga and Vanuatu.

Albania exports to Burkina Faso.

Bulgaria exports to Egypt, Algeria, South Africa, Cameroon, Burkina Faso, Iraq, Georgia, Ethiopia, Panama, the UAE and Afghanistan.

The UK exports to Bahrain, Djibouti, Kenya, Namibia, Nigeria, Oman, South Africa, the UAE, Zambia, Iraq, Tanzania, Pakistan, Botswana, Colombia, Gambia, Kuwait, Lebanon, Nepal, Paraguay, Saudi Arabia, Uruguay, Afghanistan, Vanuatu and Brunei.

Netherland exports to Tanzania.

Poland exports to Afghanistan, Saudi Arabia, and Iraq.

Slovakia exports to the Central African Republic, Egypt, Rwanda, Paraguay, Kirgizia, Uganda and South Africa.

Slovenia exports to Afghanistan

France exports to Togo, Qatar and Pakistan.

Chile exports to Salvador and Costa Rica.[108]

Of course, none of the above states is experiencing a full UN sanctioned embargo, otherwise SALW should not be legally exported there, however, a closer look at the list of the importers reveal the majority of these countries are located in fragile regions which draw a lot of concern among the international community. However, the UN Register of conventional weapons does not track the dynamics of the military potential growth in the unstable countries, or forecasts the threat of armed conflicts or, potentially, prevent the conflicts within the UN Register framework. Such

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[107]See categories of exported SALW and quantities in <http://www.un-register.org/SmallArms/Index.aspx>.

[108] See amounts and categories of SALW exports to the above countries and other non-fragile countries in the UN Document A/67/212 distributed 30 July 2012 and A/67/212/Add.1 distributed 21 Sep. 2012.

analytical material could have been available had the politicians a clear definition of the 'destabilizing accumulation of arms' – something the community has not defined yet.

Table 3 gives more detail about the nature of SALW exports in the last few years. These numbers give the idea of the staggering amount of SALW circulation (over 6 million firearms and that number still does not include the category IV firearms – the ammunition) even if we assume it is significantly below the real guns in circulation, since only 25% of all SALW exporters report in the Register.

The data in the table causes a serious concern about the swelling numbers of light weapons in category V – MANPADS and ATGM, which already counted almost 3,000 units in 2010. MANPADS have been a weapon of choice in many armed conflicts and their licit and illicit proliferation is becoming a major headache for the international community[109].

The largest manufactures of SALW, such as the Russian Federation and USA, do not report their exports to the Register, therefore the exact export figures are unknown and are very hard to estimate. On the other hand, sketchy information available from various mass media sources allow to place the Russian SALW exports amount to around US$ 150-300 million every year. The larger portion of that are the most expensive weapons in the category –MANPADS and ATGM, prime importers of which are in Africa, Asia, the Middle East, some states in Latin America and former Soviet Union (CIS) states[110].

There have been confirmed exports of Russian SALW to Algeria, Libya, Ethiopia, Namibia, Kenya, Jordan, Eritrea, Oman, India, Indonesia, Bhutan, Uzbekistan and other former Soviet Union

[109] MANPADS can engage both civilian and military aircrafts at ranges between 5 to 7 km. Most of this type of SALW, including, among others, Soviet (and Russian) SA systems, US Stinger and Chinese Vanguard are fairly light and are guided by infrared sensors on a heat source. This category of SALW is extremely efficient: US Stingers brought down 270 Soviet airplanes and helicopters in Afghanistan. More civilian airplanes flying in the conflict zones suffered from MANPADS in the last 20 years. One of the most notorious attacks with MANPADS was assassination of Rwanda president in April 1994.

[110] Golotyuk, Yu., 'Challenges of SALW control in former Soviet Union: lessons learned from the last decade and short-term outlook', *Yaderniy Kontrol*, 2002, No. 3, p. 53.

states. The largest exports in terms of quantities have been made in Kalashnikov submachine guns. According to some expert estimates, in the last 50 years over 100 million different modifications of AKs have been manufactured in the world, and today Kalashnikovs are standard weapons in the national military in over 50 countries around the world. Other sources insist that AK production has long surpassed the 100 million mark and the weapon is in service in over 80 countries[111]. Venezuela, for instance, purchased 100 000 Kalashnikov submachine guns and obtained the license to build a production factory to manufacture modified submachine guns AK-103 and 7.62 mm ammunition. According to M. Kalashnikov, average annual Russian exports in small arms, close combat weapons and associated ammunitions are estimated at: for small arms and close combat weapons – 130 000-150 000 firearms; for ammunition – 150-200 million[112].

[111]Novichkov, N.,'Small arms: more demand every year', *Gazeta VPK*, No. 35 (452), 5 Sep. 2012.

[112]See Interfax of 26 May 2005. There are three major firearms production centers in Russia –Izhevsk, Tula and Kovrov. Izhevsk ('Izhmash' and 'Izhevskiy mekhanicheskiy zavod') manufactures around 85% of all Russian firearms, around 10% firearms are manufactured at Vyatka-Polyansk 'Molot' and about 5% firearms manufactured at Tula Arms Plant.

Table 3. SALW exports in 2006-2010 (units)[113]

| Year | Small arms | | | | | | Light weapons | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Categories[114] | | | | | | Categories[115] | | | | | | |
| | I | II | III | IV | V | VI | I | II | III | IV | V | VI | VII |
| 2006 | 208613 | 223689 | 33800 | 27565 | 5368 | 16102 | 1412 | 11376 | 3287 | 2310 | 481 | 100 | 11 |
| 2007 | 794697 | 975187 | 104045 | 193650 | 14890 | 328 | 2469 | 4645 | 2 | 162 | 701 | 10 | 30 |

[113] Reports of certain states submitted to the UN Register of Conventional Arms have been summarized in terms of SALW exports/imports since 2006. See more on exports by individual countries in <http://www.un-register.org/SmallArms/Index.aspx>. There was no final total data for 2011 as of mid-2012.

[114] Categories of small arms: I – revolvers and automatic pistols, II – rifles and carbines, III – submachine guns, IV – assault rifles, V – light machine guns, VI – other (ammunition, barrels and other parts).

[115] Categories of light weapons: I – heavy machineguns, II – man-portable under-barrel and mounted grenade launchers, III – anti-tank rifles and grenade launchers, IV – recoilless rifles, V – man-portable air defense systems (MANPAD) and anti-tank guided missiles (ATGM), VI – less than 75 mm caliber mortars, VII – other weapons (light anti-aircraft guns, 30 mm automatic cannons – 2A42 and other parts).

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2008 | 575371 | 549387 | 47019 | 271494 | 9768 | 45 | 6455 | 21263 | 132 | 5294 | 244 | 137 | |
| 2009 | 261536 | 599791 | 36552 | 94130 | 83964 | 64319521[116] | 11303 | 13303 | 1104 | 5061 | 59 | 366 | 159 |
| 2010 | 104385 | 350004 | 100450 | 105382 | 25513 | 315 | 12338 | 20347 | 606 | 7223 | 2966 | 222 | 14 |
| Total | 1944602 | 2698058 | 321866 | 692221 | 139503 | 64336311 | 33977 | 70934 | 5131 | 20050 | 4451 | 835 | 214 |

[116] Of the numbers in Category VI– Albania exported 64 319 500 units. The exports primarily included 12.7x0.8 mm ammunition and 82 mm and 120 mm mortar shells. Of the specified amount, 60 million ammunition rounds have been exported to Czech Republic, over 40 million – to Yemen and the rest – to Burundi and Montenegro.

Other highly competitive Russian-designed small arms, in addition to various AK modifications, are submachine guns Abakan, heavy machine gun Kord, Dragunov sniper rifle, submachine gun Bizon for 9x19 mm ammunition, as well as specialized types of firearms, generally used in international counterterrorism operations, including silenced sniper rifle VSS, silenced submachine guns AC, 18-round handgun Gyurza, APS underwater assault rifle, SPP underwater pistol, NRS scout's shooting knife and other types of arms. Among all light weapons categories of SALW, various types of MANPADS and ATGM are the bestsellers.

There are around 200 private firearms manufacturers in the USA, but combat SALW production has been primarily concentrated in three companies: General Dynamics (and Saco Defense subsidiary), FN Manufacturing (subsidiary of Belgian Herstal Group) and Colt's Manufacturing.

Saco Defense specializes in production of heavy machine guns M-2, M-19 and M-60. Colt's Manufacturing makes M-16 rifles and M-4 Carbine. FN Manufacturing's products, in addition to famous M-16, include M-249 and M-240 machine guns. Civil firearms manufacturers' segment is represented by a group of leading gun manufactures, such as Sturm, Ruger Co, Smith & Wesson, Remington Arms, VS Repeating Arms Co, (subsidiary of the Belgian Herstal Group) and Beretta USA Corporation.

The total annual SALW exports from the US in all programs are estimated to be around $1.2 billion (five to six times the Russian exports) of which ATGM exports alone reach $775 million, MANPADS – $102 million and all other categories of SALW making around $275 million a year. The US manufactures around 4 million firearms a year, which is about a half of all small arms and light weapons sold in the world every year. American firearms sell especially well in Western Europe, Japan, Israel, Taiwan, Saudi Arabia and Egypt.

**Work done to curb SALW proliferation: timeline**

Destabilizing force of SALW in armed conflicts, such as in the conflicts we looked at earlier, is a compelling reason for the

international community to start looking for ways to try and curb the proliferation of licit and illicit firearms, with a particular emphasis on working out a series of international agreements, such as treaties, conventions and programs, at the global and regional levels.

The international law regulating the small arms and light weapons is regularly amended with new documents and regimes designed to meet the new challenges of maintaining a peaceful coexistence of nations. The adopted documents, however, are often too late to be able to effectively address modern threats, whereas the fast paced, changing political landscape brings the new nature of armed conflicts and tactics of war.

The arms are continuously improved and, therefore, firearms markets expand. According to the UN Report[117], '…more is known about the number of nuclear warheads, stocks of chemical weapons and transfers of major conventional weapons than about small arms'. Small arms continue to proliferate worldwide because they are cheap, light and easy to handle, transport and maintain, as well as because of the lack of reliable international controls to be able to regulate the firearms sales, which, consequently, fuel the illicit trafficking of firearms.

The major active international documents in conventional arms control, which include the efforts to regulate the circulation of small arms and light weapons, are listed chronologically below.

**1981**

The United Nations' Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects enters into force. (Inhumane Weapons Convention or IWC). There are two active prohibitive protocols and three restrictive protocols in IWC: protocol prohibits the use of any weapon the primary effect of which is to injure by fragments which are not detectable in human body by X-rays (Protocol I), and the use of blinding laser weapons (Protocol IV); the protocols restrict the use of mines, booby-traps and other devices (Protocol II), as well as the use of incendiary weapons (Protocol III). Protocol V stands out in the restricting document 'package' in IWC (adopted in November 2006) regulating the explosive remnants of war (ERW)

[117] UN Document S/2008/258 distributed on 17 Apr. 2008.

(which includes artillery shells, aerial bombs, hand grenades, unexploded cluster bombs and other unexploded ordnance).

For many years the IWC review conferences were discussing the need to reclassify Protocol V from restrictive to prohibitive and amend the IWC list with the prohibitions from alternative Oslo Convention on Cluster Munitions ammunition (entered into force in August 2010) which draws a lot of opposition from the major cluster munitions manufacturers and users, including Russia. The last IWC review conference in November 2011 failed to get the countries to agree on the language of an alternative Protocol designed to regulate the cluster munitions. 115 UN member states joined the IWC. The IWC, however, does not cover the mines other than antipersonnel mines[118].

Russia ratified the IWC and first three Protocols to the Convention in 1982, Protocol IV – in 1999 and Protocol V – in 2008

**1987**

The Missile Technology Control Regime (MTCR) was established. 34 countries joined the Regime, including the Russian Federation. The governing documents of the MTCR – Guidelines for Sensitive Missile-Relevant Transfers, the Note (procedural aspects) and the Equipment, Software and Technology Annex (list of items on which the MTCR imposes certain restrictions). The MTCR introduced the concept of comprehensive control in 2003. In November 2007, the Russian Federation proposed to conduct a comprehensive review of the MTCR to adjust to new challenges and threats of missile proliferation; however, this initiative never materialized. There was no progress made in the MTCR membership expansion either. 13 countries are currently on the MTCR waitlist.

**1991**

Five countries – the USA, UK, China, France and the USSR – developed the so called 'London Principles' of arms trade. In December 1991 the UN General Assembly adopted Resolution 46/36 L 'Transparency in armaments', which introduced the UN

[118] See more meeting protocols of high contracting parties on the convention implementation status in the UN Documents CCW/MSP/2009/SR.1 distributed on 6 Apr. 2010, and CCW/MSP/2012/WP.5 distributed on 30 Aug. 2012.

Register of Conventional Arms (the Register), where UN member states reported information about international arms transfers, both exports and imports, of seven major categories of conventional weapons effective 1992[119]. See above the assessment of the Register's role in regulation of SALW circulation.

**1992**

The Treaty on Conventional Armed Forces in Europe (CFE) entered into force. The Treaty had an obvious 'block-to-block' nature and was designed to strike a balance of force between NATO and the Warsaw Pact, restricting the deployment of conventional forces on either side of the interface between the two blocks. However, it did not resolve the real issue of curbing the arms proliferation. The breakup of the USSR and dissolution of the Warsaw Pact and other contributing military and political circumstances prevented from meeting the stated goals, while after Russia's suspension of the Treaty membership in December 2007, CFE has effectively become void.

**1995**

The Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies was adopted and has been effective since 1996. This international regime is reviewed every four years. Initially, the Wassenaar Arrangement covered 33 countries, with 41 current participating states (Russia is also the Wassenaar Arrangement participant).

The Wassenaar Arrangement framework has been amended with 'Elements for Export Controls of Man-Portable Air Defence Systems (MANPADS)' in December 2002, making it effective the first international agreement of this kind. The most important element of the document is effectively the prohibition of MANPADS sales to non-governmental groups. 2002 Wassenaar Arrangement has been reinforced in 2002 with 'Best Practice Guidelines for Exports of Small Arms and Light Weapons'. In 2007, the Russian Federation initiated the adoption of revised MANPADS Elements for Export Controls document[120].

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[119] The categories include: I. battle tanks; II. armoured combat vehicles; III. large-calibre artillery systems; IV. combat aircraft; V. attack helicopters; VI. warships (including submarines); VII. missiles and missile-launchers.

[120] See about the Wassenaar Arrangement at: http://www.wassenaar.org/publicdocuments/index_PD.html>.

**1996**

The UN Guidelines for international arms transfers have been adopted and later became the foundation of specific agreements, arrangements, conventions and other documents regulating the transfer of conventional weapons, including small arms and light weapons.

**1997**

Participating states of the Organization of American States (OAS) signed an Inter-American Convention against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials. 33 states signed the Convention and 30 states ratified it. The Convention is deemed the first regional legally binding document in firearms and requires an efficient system regulating the licensing and sanctioning of imports, exports and transit shipments of firearms, as well as mandatory permanent markings made during the manufacture and import[121].

Later on, the Convention has been expanded: 1998 – 'Model Regulations for the Control of the International Movement of Firearms', 1999 – Inter-American Convention on Transparency in Conventional Weapons Acquisitions, 2002 – Antigua Declaration on the Proliferation of Light Weapons in the Central American Region, 2003 – 'Model Regulations for the Control of Brokers of Firearms, their Parts and Components and Ammunition'[122].

**1998**

1) The EU adopted the European Union Code of Conduct on Arms Exports, which is still in force[123]. Later (December 1998) the Council of the European Union approved the Council Joint Action on the European Union's Contribution to Combating the Destabilizing Accumulation and Spread of Small Arms and Light Weapons and Repealing Joint Action. This plan, based on the European Union's Programme for Preventing and Combating Illicit

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[121] The Convention broadly defines a firearm as 'any barreled weapon which will or is designed to or may be readily converted to expel a bullet or projectile by the action of an explosive or a or destructive device such as any explosive, incendiary or gas bomb, grenade, rocket, rocket launcher, missile, missile system, or mine'.

[122] See text of the Convention and other documents at: <http://www.oas.org/juridico/english/sigs/a-63.html>.

[123] See text of the European Union Code of Conduct at: <http://www.consilium.europa.eu/uedocs/cmsUpload/08675r2en8.pdf>.

trafficking in Conventional Arms (adopted by the Council of the European Union in June 1997) and EU's Code of Conduct on Arms Exports (adopted in June 1998), prescribes a staged approach to addressing this issue.

In 2002, the Joint Action, covering 10 categories of small arms and light weapons, was amended with SALW ammunition. The EU Council publishes annual progress reports on the Joint Action progress, including the work on the European Union's Programme for Preventing and Combating Illicit Trafficking in Conventional Arms.

2) The Economic Community of West African States (ECOWAS) declared a Moratorium on Importation, Exportation and Manufacture of Light Weapons in West Africa. Later, in June 2006, ECOWAS adopted the ECOWAS Convention on Small Arms, Light Weapons, their ammunition and other associated material, the main clauses of which are designed to prevent the destabilising accumulation of small arms and light weapons in West Africa by enforcing efficient control tools[124].

3) The Southern African Development Community (SADC) adopted the regional Action Programme on Light Weapons and Illicit Arms Trafficking, which transformed the SADC Protocol on Control of Firearms, Ammunition and Other Related Materials in August 2001. The SADC Protocol on firearms outlines the major action items to combat illegal firearms trafficking. The following states committed to follow the Protocol: Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe[125].

**1999**

The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their

[124] ECOWAS was established in 1975. The organization includes 16 participating states: Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. See text of the Moratorium: <http://www.prio.no/nisa>, see text of the Convention: <http://www.unidir.org/pdf/articles/pdf-art2836.pdf>.

[125] SADC Protocol, text: <www.sadc.int>.

Destruction (Anti-Personnel Landmines Convention) entered into force[126].

Over 30 states have not signed the Convention, including three permanent members of the UN Security Council (China, the Russian Federation[127] and the USA), which accumulated the largest stockpiles of anti-personnel landmines and, for various reasons, are not ready to get rid of them. This group of states is reluctant to destroy the mines because of the unreasonable deadlines identified for complete destruction of AP landmines. Such as the unreasonable deadline which requires the states to destroy their national stockpiles of AP landmines in four years, whereas all the mines already in the field (there are estimated 160 AP landmines planted in 64 countries) are expected to be destroyed in ten years' time[128].

The largest national stockpiles of AP landmines have been accumulated in China (110 million), Russia (26.5 million), the USA (10.4 million), Pakistan (6 million), India (4–5 million) and a few others.[129]There are numbers available on at least 34 countries manufacturing and exporting various modifications of AP landmines. At the same time, the global AP landmines market is still estimated in tens of millions of mines sold with international community having virtually no control over the trade.

Even those quite a few states that ratified the Convention have been consistently requesting to extend their destruction deadlines. For instance, the Convention meeting in the end of 2011

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[126] Antipersonnel mines are considered light weapons, but the international law reviews them separately.

[127] Russia's position on the Anti-Personnel Landmines Convention is determined by the complex geopolitical situation, armed conflicts that flare once in a while in the former Soviet Union states, when the new nations prefer to settle the conflicts (mostly territorial disputes) by use of force. This makes Russians pay special attention to defence along the border (including deploying the minefields), especially when you think Russia has the longest – 24 000 km – land border line in the world. In addition, AP mines ensure the security of important military and industrial facilities, such as nuclear power plants, large production facilities, etc. Experts agree that none of other available resources could do the job and could challenge AP landmines in terms of cost and efficiency.

[128] As of late 2011, a total of 44.5 million landmines have been destroyed, but there no data available is on the new antipersonnel mines and minefields.

[129] *SIPRI Yearbook 2006: Armaments, Disarmament and International Security* (IMEMO RAS, M.: Nauka, 1998 – 2006. – 2007), p. 808.

revealed that a few states missed their deadlines. Those which were late on the deadline included Belarus (still has 3.36 million landmines slated to be destroyed), Greece (0.935 million), Turkey (0.022 million) and Ukraine (5.95 million). In addition, quite a few participants still keep some limited stockpiles of AP landmines, the fact that, while technically a violation of Article 3 of the Convention, still defeats the ultimate purpose of the Convention agreement – to make our world landmine-free[130].

Later, in 2009, the Cartagena Summit (Colombia) convened to confirm the commitment of states, international organizations and civil societies to put an end to the suffering caused by AP mines, and prepare an Action Plan for a 5 year term. (The plan is to have the Convention participants for Third Review Conference in 2014). After 2009, the Anti-Personnel Landmines Convention has been commonly referred to as 'Cartagena Protocol'.

158 states ratified or joined the Convention as of mid-2012[131].

**2000**

1) Organization for Security and Co-operation in Europe (OSCE), governed by the OSCE principles regulating the conventional weapons sales (1993), adopted the OSCE Document on Small Arms and Light Weapons. It sets out political clauses designed to fight the illegal firearms trafficking, limit the uncontrolled proliferation of SALW and introduce some export controls, confidence building measures and ensure a secure and transparent environment.

The Document contains political commitments only. There are 57 states – OSCE members – participating, including Russia. According to the Document requirements, the information exchange on SALW circulation has been reported annually since 2002.

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[130] See the list of the states and quantities of AP mines in stockpiles in the UN Document: UN Document APLC/MSP.11/2011/8 distributed on 16 Feb. 2012.

[131] The States that has not joined the Anti-Personnel Landmines Convention: Azerbaijan, Armenia, Bahrain, Vietnam, Georgia, Egypt, Israel, India, Iran, Kazakhstan, China, North Korea, Cuba, Kyrgyzstan, Laos, Lebanon, Libya, Marshall Islands, the Federated States of Micronesia, Mongolia, Myanmar, Nepal, the UAE, Oman, Pakistan, Poland, Republic of Korea, Russia, Saudi Arabia, Singapore, Syria, the USA, Somalia, Tonga, Tuvalu, Uzbekistan, Finland and Sri Lanka.

In May 2004, the OSCE approved the OSCE Principles for Export Controls of MANPADS, which were earlier developed in the Wassenaar Arrangement's framework, in order to mitigate the threats of terrorism associated with this type of weapons. To reinforce the basic document, the OSCE also distributed the Handbook of Best Practices on Small Arms and Light Weapons in 2003, and Document on Stockpiles of Conventional Ammunition was distributed on November 19, 2003[132].

The OSCE developed the End User Certificate for Small Arms and Light Weapons in 2011 and recommended that all participants enforce it.

2) The Bamako Declaration on the African Common Position on the Illicit Proliferation, Circulation and Trafficking of Small Arms and Light Weapons was adopted (signed on 1 December 2000) in Bamako. The purpose of Bamako Declaration is to coordinate efforts to address the illicit proliferation and trafficking of small arms and light weapons in all of Africa. The Declaration is also an important reference for African states in following other key agreements in the continent signed sub-regionally (ECOWAS Moratorium, SADC Protocol and others). All the OAU (now African Union) members became the participants of the Declaration.

3) The Nairobi Declaration on the Problem of the Proliferation of Illicit Small Arms and Light Weapons in the Great Lakes Region and the Horn of Africa was adopted[133]. The purpose of the Declaration is a broad approach to the problem of proliferation of illicit small arms and light weapons in the region. To support the Declaration, Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons (Nairobi Protocol) was prepared in 2004 and signed by 11 states[134], but the Protocols is yet to enter into force.

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[132] See: <http://www.osce.org/mc/documents>. The continuing implementation of the OSCE document on small arms and light weapons, Dec. 2011, Vilnius, <http://www.osce.org/fsc/40968>.

[133] Text of Nairobi Declaration: <http://www.globalpolicy.org/component/content/article/204/42638.html>.

[134] Protocol was signed by Burundi, Democratic Republic of Congo, Djibouti, Kenya, Rwanda, Seychelles, Sudan, Tanzania, Uganda, Eritrea and Ethiopia. Protocol should enter into force thirty days after it is ratified by two thirds of its members, and will bind the member states to adopt the legislature to

**2001**

1) The UN Conference reviewed the destabilizing accumulation of small arms and light weapons designed for military use in the security and disarmament context. The Conference participants adopted the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects (hereafter the UN Programme of Action on SALW), which sets some parameters of international cooperation and contains recommendations specific at national, regional and global levels.

According to the Programme, UN member states agreed, effective 2003, to provide the United Nations Secretariat with regular national progress reports on the Programme implementation (see the overview of the Programme efficiency below).

2) The Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition, supplementing the United Nations (hereafter – the UN Firearms Protocol) was adopted.

The UN Firearms Protocol is known as the Vienna Protocol, since it was prepared by the Commission on Crime Prevention and Criminal Justice of the UN Economic and Social Council (ECOSOC) in Vienna, Austria.

The UN Firearms Protocol[135] is the first legally binding document which is mainly designed to prevent crime and ensure the rule of law. This document requires the member states adopt the responsibilities to ensure the security and safety of firearms, their components and ammunitions during the production, import, export and transit shipments, as well as improve the controls of all operations, including, in appropriate circumstances, any required border control arrangements and cross-border cooperation between national police and customs.

The Protocol is not applied as broadly as, for instance, the UN Programme of Action on SALW. In particular, it does not cover all types of small arms and does not apply to light weapons.

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outlaw the illegal production, trafficking, possession and abuse of SALW.

[135] The definition of a firearm in the Firearms Protocol varies from the definition in the UN Programme of Action. Article 3(a) of the Protocol defines firearms as ‘portable barrelled weapon that expels, is designed to expel or may be readily converted to expel a shot, bullet or projectile by the action of an explosive’.

Besides, the Protocol does not apply to any international sales or transfers made by the governments for the purpose of national security. It primarily focuses on transnational crimes. The United Nations Office on Drugs and Crime (UNODC) prepared and distributed 'Model Law against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition'[136] in 2011, and recommended the states to adopt it.

Less than 50% of UN member states have been participants to UN Firearms Protocol in mid-2012. Only 90 states joined it since it has been signed 11 years ago. (Protocol entered into force in 2005 after 40 states had it ratified).

Major manufacturers of small arms and light weapons, including the USA, UK, Russia, Czech Republic and some others, have not even signed the Protocol. Some states signed it, but did not ratify (for instance, Australia, Austria, Germany, China, South Korea and others). It appears that, similar to the deliverables of the last UN Conference on Firearms Protocol of October 15–19, 2012, we should not expect this document become universal any time soon[137].

3) In order to eradicate the illicit SALW trafficking, the South African Development Community adopted the Declaration Concerning Firearms, Ammunition and Other Related Materials (SADC Protocol). SADC approved it as a legally binding agreement, designed to combat and eradicate the illicit

[136] See the text at: <http://www.unodc.org>.

[137] Materials of UN Conference on Firearms Protocol of 15-19 Oct. 2012, are published in the following primary UN documents: CTOC/COP/WG.6/2012/2 distributed 5 Mar. 2012 (Recommendations to the Conference on how states parties can better implement the provisions of the Firearms Protocol); CTOC/COP/WG.6/2012/3 distributed 28 Mar. 2012 (Exchange of experience on successful practices, weaknesses, gaps and challenges in the fight against the illicit manufacturing of and trafficking in firearms, their parts and components and ammunition); CTOC/COP/2012/10 distributed 22 June 2012 (Provision of technical assistance to States in the implementation of the United Nations Convention against Transnational Organized Crime and the Protocols thereto); CTOC/COP/2012/L.5 distributed 12 Oct. 2012 (Review of the implementation of the United Nations Convention against Transnational Organized Crime and the Protocols thereto); CTOC/COP/2012/L.5/Rev.1 distributed 18 Oct. 2012 (Promoting accession to and implementation of the Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition).

manufacturing of firearms, ammunition and other related materials as well as to foster a broader and intensive cooperation between SADC member states on the problem. In general, the SADC Protocol provisions[138] are designed to restrict the ownership of firearms, prevent the illicit trafficking and destroy the excessive stockpiles, but do not regulate the circulation of light weapons.

**2003**

1) OAS adopted 'Model Regulations for the Control of the International Movement of Firearms, their Parts and Components, and Ammunition – Broker Regulations'. The Document has the regional jurisdiction and amends the Inter-American Convention on firearms.

2) Protocol V to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects of 1980 was adopted (Protocol on Explosive Remnants of War adopted in 2003).

3) The Brazzaville Programme of Priority Activities for Small Arms and Light Weapons in Central Africa has been developed, which is essentially a sub-regional plan to implement the United Nations Programme on Small Arms and Light Weapons, adopted in 2001.

**2005**

1) The UN Protocol against Illicit Manufacturing and Trafficking in Firearms entered into force, becoming the fifth additional protocol to four Geneva Conventions for the protection of war victims of 12 August 1949.

2) The UN General Assembly approved the international document enabling the states to identify and trace illicit small arms and light weapons in a timely and reliable manner. This document became an integral part of the UN Programme of Action on small arms and light weapons, adopted in 2001.

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[138] SADC is an inter-governmental organization that has around 14 member states representing a sub-region with over 120 million population and includes: Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

**2006**

UN General Assembly declared the intention to start drafting the Arms Trade Treaty (ATT)[139].

Although ATT discussions have been separate from SALW issues, the reason behind the proposed Treaty is the same – the international community's concern with the consequences of unregulated trade in conventional weapons, as well as a lack of proper regulation in SALW circulation. The Treaty is expected to become a legally binding document. It should be based on clear principles which will determine the reason for an export ban and serve as an effective mechanism to monitor compliance and penalties for the violators.

Following the sessions of UN General Assembly, starting from 2006, mentioned ATT in various contexts when the delegates discussed disarmament, transparency and SALW proliferation. By mid-2010, around 150 UN member states were in favour of ATT, including all EU states.

Arms Trade Treaty Conference convened 2-27 July 2012, primarily to discuss the Preparatory Committee's report which effectively presented the Draft Treaty[140].

According to the draft Treaty, it shall apply to all conventional arms in the following categories: 1) battle tanks; 2) armoured combat vehicles; 3) large-calibre artillery systems; 4) combat aircrafts (piloted and unmanned); 5) attack helicopters (piloted and unmanned); 6) warships (vessels or submarines armed and equipped for military use); 7) missiles (guided or unguided) and missile launchers; 8) small arms; 9) light weapons; 10) ammunition for arms above; 11) parts and components, specifically designed for arms in any of the categories above; 12) equipment and technology, specifically designed and used for engineering, manufacturing or maintenance of the arms in any of the categories above.

Based on the list above, the Treaty is expected to expand the categories of conventional weapons to be regulated. Currently, according to the UN Register, imports and exports in seven

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[139] See the UN General Assembly Resolution 61/89 of 6 Dec. 2006. 'Towards an arms trade treaty: establishing common international standards for the import, export and transfer of conventional arms'.

[140] Report of the Preparatory Committee for the United Nations Conference on the Arms Trade Treaty. UN Document A/CONF.217/1 distributed 7 Mar. 2012.

categories in the list above are reported to the UN, as well as voluntarily reported SALW (items 7 and 8 in the list above). In other words, the categories requiring mandatory reporting will be amended with individual SALW items (two categories), ammunition, parts and components, as well as technology and equipment.

The views of a number of states on the Arms Trade Treaty have been officially voiced in the UN and compiled in the Background Document of the UN General Assembly[141]. In general, these statements support the idea of a global arms trade treaty, but not the specific language presented by the Preparatory Committee's Chairman.

The Russian Federation, USA and a few other countries were against adopting the draft ATT and proposed to continue working on it[142]. A few other states were against many conditions of the Treaty, including some major firearms exporters (China, for instance) and large importers (India, Algeria, Egypt, North Korea, Iran, and Venezuela), as well as a few states with 'unique' position (some states were not happy with including the human rights in the language, others were against including the ammunition, or some other reasons for banning arms exports)[143].

Eventually, the Conference abstained from approving the Draft Treaty, which could only be adopted with a consensus. In the joint statement, about 90 states, including 27 EU states, expressed their disappointment with the Conference and proposed to extend

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[141] Background document. Compilation of views on the elements of an arms trade treaty / UN Document A/CONF.217/2 distributed 10 May 2012. (Document presents the views of 47 states and the European Union) and the amendment, listing views of two more states (UN Document A/CONF.217/2/Add.1 distributed 27 July 2012). Views of other states not covered in the Background Document, are available at: <http://www.un.org/disarmament/ATT/statements>.

[142] See text of the Russian Federation's address at the UN Conference on ATT (New York, 2-17 July 2012), <http://www.un.org/disarmament/ATT/statements/docs/20120709/20120706_Russia_R.pdf>. More about various scenarios regarding ATT and Russian position in the review article: Kalinina, N., Kozyulin, V., 'Arms Trade Treaty: Silencing the guns', *Indeks Bezopasnosti*, 2010, No. 3 (Fall 2010), pp. 81–98.

[143] See more in the interview with V. Kozyulin, Director of the PIR-Center Conventional Arms and ATT Project, *Vzglyad Newspaper*, 30 July 2012, <http://www.vz.ru/politics/2012/7/30/590959.html>.

the negotiations in the near future. The UN Secretary General Ban Ki-moon also regretted that the Treaty was not adopted by a consensus. He considered the Conference outcome a 'step back'.

The Conference eventually decided to present the draft Treaty to the UN General Assembly in Chairman's personal document[144]. Majority of the diplomats, experts and researchers believe the ATT Conference was a failure, essentially bringing the community back to square one. The UN General Assembly will later make a decision about the future of the Treaty, as well as the conditions and the deadlines to work on the Treaty.

The Treaty became a reality on 2 April 2013, when ATT (after second Treaty Conference failed in March 2013) was passed by the UN General Assembly in a majority vote: 154 in favour to 3 against (Democratic People's Republic of Korea, Iran, and Syria), with 23 abstentions which included Russia. The Treaty will open for signature on 3 June and enter into force 90 days after being ratified by the fiftieth signatory.

**2008**

1) Convention on Cluster Munitions was signed – a result of the so called 'Oslo Process'. (The Convention entered into force on 1 August 2010). It is expected that the ratifying states stop the use, production and transfer of cluster munitions in eight years[145]. As of mid-2012, 108 states signed the Convention and 77 states ratified it.

The largest cluster munitions manufacturers – the USA, Russian Federation and China – did not join the Convention. The Convention has not been ratified by a few other states where cluster munitions are employed extensively, such as Pakistan, India, Brazil, Israel, etc.

Around 210 various types of cluster munitions are stockpiled by at least 76 states worldwide.

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[144] Such a document was distributed. See UN Document A/CONF.217/CRP.1 distributed 1 Aug. 2012.

[145] Generally, the cluster munitions are special types of aerial bombs, or artillery shells, warheads of multiple rocket launchers (MRL). The most powerful cluster munitions can disperse up to 650 bomblets covering an area of 30 000 square meters. The bomblets detonate either instantly on impact, or after a set time delay, which can be minutes, hours or even days, effectively creating minefields. The unexploded cluster munitions pose the greatest threat to civilian population.

According to official UN reports, cluster munitions were used in 23 countries killing several tens of thousands of civilians in the last 30 years[146]. Explaining the Russian view on the Convention, a Russian diplomat noted[147], that cluster bombs are legal and effective weapons which are allowed by international law, designed for certain battle missions to ensure national security of the Russian Federation and its allies. Cluster bombs are not prohibited by the international humanitarian law. This is the reason why Russia objected a total ban on the cluster munitions.

2) The G7+ group was established, representing fragile and conflict-affected states that have joined together to make their 'voice heard in international debates', and where the use of legal and, especially, illegal small arms and light weapons remains a constant threat to peace. G7+ group is represented by: Afghanistan, Burundi, Haiti, Democratic Republic of Congo, Cote d'Ivoire, Liberia, Nepal, Solomon Islands, Sierra Leone, Timor-Leste, the Central African Republic, Chad and South Sudan[148].

**2009**

The Central African Convention for the Control of Small Arms and Light Weapons, their Ammunition, Parts and Components that can be used for their Manufacture, Repair or Assembly (Kinshasa Convention) was developed.

The Convention was developed by the United Nations Regional Centre for Peace and Disarmament in Africa under the guidance of the United Nations Standing Advisory Committee on Security Questions in Central Africa. This Convention filled the gap, which allowed Central Africa to remain among the last African sub-region which did not have a legally binding document regulating SALW[149]. The Kinshasa Convention was open for

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[146] Myasnikov, V., 'Cluster munitions are not bombs', *Nezavisimoye Voennoye Obozrenie*, 2008, № 44.

[147] Anatoly Antonov, the head of the Department for Security and Disarmament of Russian Foreign Ministry, comments on the Convention on Cluster Munitions adopted at Dublin diplomatic conference. DVBR MID RF, 6 June 2008, <http://www.mid.ru/brp_4.nsf/newsline/F22EA6851DB61297C3257460005E9B0B>.

[148] Read more about the G7+ group at: <http://www.g7plus.org/>.

[149] More on the topic at: Report of the Secretary-General. Regional confidence-building measures: activities of the United Nations Standing Advisory Committee on Security Questions in Central Africa. UN Document A/65/176 distributed 28 July 2010.

signature from 19 November 2010, but has not entered into force as of mid-2012[150].

The above list of regional and international documents regulating, to a certain degree, SALW is incomplete. Various UN divisions and institutions, non-governmental, academic and other public groups monitor SALW issues, and offer various approaches to the problems stemming from the firearms trafficking.

Such group of United Nations divisions and institutions includes: United Nations Development Program (UNDP); Coordinating Action on Small Arms (CASA) mechanism[151]; United Nations Mine Action Service (UNMAS); United Nations Office on Drugs and Crime (UNODC); United Nations Office for Disarmament Affairs (UNODA); United Nations Office for Project Services (UNOPS); United Nations Office of the High Commissioner for Refugees (OUNHCHR); United Nations High Commission for Refugees (UNHCR); United Nations Office for the Coordination of the Humanitarian Affairs (UNOCHA); Counter-Terrorism Committee Executive Directorate (CTED); United Nations Institute for Disarmament Research (UNIDIR)[152]; International Civil Aviation Organization (ICAO)[153]; INTERPOL, etc.

The list of NGOs, which the UN Group of Governmental Experts (GGE) on SALW often refers to, includes: the International Action Network on Small Arms (IANSA); Small arms review

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[150] Kinshasa Convention was signed by 11 states: Angola, Burundi, Cameroon, Chad, Democratic Republic of Congo, Equatorial Guinea, Gabon, the Central African Republic, Rwanda, Republic of Congo and São Tomé and Príncipe.

[151] CASA is a general UN coordinating platform, which the UN Secretary General created in order to facilitate wide information exchange and action coordination in the active initiatives. CASA includes 22 UN agencies working in violence prevention and mitigation of SALW impact on the societies, communities and individuals.

[152] UNIDIR published the book 'Searching for Aid Effectiveness in Small Arms Assistance' in June 2010,which makes an assessment of existing basic documents and reviews their effectiveness with regards to small arms and light weapons.

[153] In 2010 ICAO's Group of Aviation Security experts developed a MANPADS reference manual and completed an airport vulnerability study, in order to assist the member-states in choosing the right strategy and effective countermeasures to any existing or emerging threats from MANPADS.

(SAFERWORLD); UN South Eastern Europe Clearinghouse for the Control of Small Arms and Light Weapons (SEESAC); Regional Centre on Small Arms and Light Weapons in the Great Lakes Region, the Horn of Africa and Bordering States (RECSA); Stockholm International Peace Research Institute (SIPRI); International Weapons and Explosives Tracking System (IWETS); Parliamentary Forum on Small Arms and Light Weapons; Geneva International Centre for Humanitarian Demining (GICHD); International Trust Fund For Demining and Mine Victims Assistance (ITF); International Committee of the Red Cross (ICRC); Humanitarian Dialogue Centre (HDC); International Peace Research Institute in Oslo; Graduate Institute of International and Development Studies in Geneva; Mine Action Information Center (James Madison University) and a few others.

The UN is actively involved in a few other efforts in coordinating UN's general operations and its divisions working to combat the illicit SALW proliferation. For this purpose, the UN Secretary General established the Coordinating Action on Small Arms (CASA), which currently includes 22 partners from the UN system, each partner working on the issues of violence prevention and SALW impact mitigation when addressing specific tasks.

CASA has a set of approved strategic priorities for 2009–2013. CASA's priority line of work is developing international standards for small arms control. The purpose of the initiative is to develop a set of internationally coordinated and approved technical standards – guidelines for the front-line specialists and the policymakers on legal, political and practical aspects of SALW.

26 new drafts of future international standards have been developed and offered for public discussions in 2010[154]. The work on the standards extended into 2012. The time will tell if this programme is ever enforced, but we can hardly hope that the newly developed international standards will be accepted as they are, for the simple reason that they will definitely fail to meet some national requirements, since every country has its own laws and will hardly be willing to update its legislatures to match the standards, in the absence of any legally binding document regulating SALW.

In general, summarizing the review of various international documents dealing with the legal and illegal SALW circulation, we

[154] See web-site: <http://www.un-casa-isacs.org>.

need to admit that, unfortunately, the abundance of various documents is very deceptive. Majority of the international agreements we looked at earlier are not legally binding but rather advisory by nature. They do not apply any penalties or restrictions to the violators at the international level and virtually provide no means of tracing and restricting any illicit SALW trafficking fuelling the armed conflicts worldwide.

A poorly controlled situation with SALW proliferation is further aggravated by the fact, that the leading manufacturers (the USA, Russian Federation, China and a few other states) do not report their SALW exports to the UN Register of Conventional Arms and are not participants to the majority of legally binding agreements regulating SALW.

Russia, for instance, did not ratify the Convention on AP landmines, UN Firearms Protocol, Convention on Cluster Munitions and does not report SALW exports to the UN Register of Conventional Arms.

There is only one universal document dealing with the illicit trafficking of small arms and light weapons – the UN Programme of Action on SALW. Let us take a closer look at how efficient this document really is.

**UN Programme of Action on SALW and its history**

The Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects (UN Programme of Action on SALW), was adopted in 2001. It is not a legally binding document. It is rather an agreement containing, for the most part, political commitments.

Participating UN member states committed to pass or upgrade the national law regarding SALW, declare the illicit SALW trade a criminal act, regulate the arms brokers, enforce a strict control of arms imports and exports and criminally charge the abusers.

It also recommends starting the negotiations about a separate document, which would regulate tracing of illicit SALW trade[155]. The negotiations in 2006 at the first review conference of participating states adopted the document that enabled the states to identify and trace in a timely manner the illicit trade in small arms and light weapons (the International Tracing Instrument). It effectively amended the Programme.

The International Tracing Instrument, unlike the Programme, specifically says how to trace the arms. It lists the requirements in markings and record keeping, including certain restrictions on the information exchange in order to ensure the confidentiality of such tracing information[156].

'Tracing', as the instrument defines it, is the systematic tracking of illicit small arms and light weapons found or seized on the territory of a state from the point of manufacture or the point of importation through the lines of supply to the point at which they became illicit.

This instrument, in addition to the requirements to markings, recordings and tracing, gives a clear definition of SALW and defines and classifies the licit and illicit use.

In particular, SALW become 'illicit' when they are: illicit under the law of the state within whose territorial jurisdiction the small arm or light weapon is found; transferred in violation of arms embargoes decided by the UN Security Council; are not marked in accordance with the provisions of this instrument. They are manufactured or assembled without a license or authorization from the competent authority of the state where the manufacture or assembly takes place; or transferred without a license or authorization by a competent national authority.

Records pertaining to small arms and light weapons should be kept indefinitely, but for at least 20 years. However, the licit and illicit SALW, to a certain extent, are two sides of the same coin, in other words, the difference is purely conceptual, and what is legal in one state is illegal in the other.

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[155] Read more at: Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, New York, 9-20 July 2001 (UN Document A/CONF.192/15, chapter IV, item 24).

[156] Read more at: UN Document A/60/88 (Appendix, items 14–23) and UN Document A/CONF.192/BMS/2010/WP.4 distributed 10 May 2010.

Most of the countries worldwide joined the UN Programme of Action on SALW and International Tracing Instrument, 168 states reported their National Points of Contact/National Coordination Agencies, while only 90-110 states provide national reports on the implementation of the Programme of Action on Small Arms and Light Weapons.

A review of national reports revealed that the states report the national activities to strengthen the SALW controls, make references to the laws and regulations, and report some numbers concerning the seized or destroyed firearms.

Russian national reports are no exception. For instance, Russia's national implementation reporting for the Programme and Tracing instrument activities in 2012[157], similar to many earlier reports[158], listed the basic national law regulating some aspects of SALW circulation (Russia does not have a law specifically dealing with SALW). It lists the documents covering the multilateral (under the OSCE[159], Wassenaar Arrangement[160], European Council, CIS, and Shanghai Cooperation Organisation) and bilateral cooperation in prevention and eradication of illicit SALW trade[161]. The National

[157] Text of the Report:<http://www.poa-iss.org/CASACountryProfile/PoANationalReports/2012@163@ PoA-ITI-Russia-2012.pdf> (Russia's status as of November 2011).

[158] National reports of all states, including Russia, for 2003-2011: <http://www.poa-iss.org/RevCon2_/NationalReports.aspx?country1=0&year1=2011>.

[159] According to the OSCE document on Small Arms and Light Weapons, Russia has been sending national reports to OSCE Secretariat on SALW exports and imports, reporting, however, only as long as the imports or exports involved OSCE members.

[160] As part of the Wassenaar Arrangement, Russia submits to the Wassenaar Arrangement Secretariat the national reports on SALW exports to countries not bound by the Wassenaar Arrangement.

[161] Russia is cooperating with many states on controlling the illicit SALW circulation in bilateral government agreements on cooperation against the crime, including organized crime. Russia has signed such agreements with Belgium (2000), Great Britain (1997), Hungary (1997), Germany (1999), Greece (2001), Denmark (2010), Egypt (1997), Israel (1997), Ireland (1999), Spain (1999), Italy (2003), Kazakhstan (1997), Norway (1998), the United Arab Emirates (2007), Portugal (2000), Slovenia (2001), Finland (1993), France (2003), Sweden (1995), the Republic of South Africa (1998), South Ossetia (2009), Latvia (2010). In addition, there are active bilateral agreements (and, memorandums in a few cases) in crime fight, including the illicit firearms trafficking, between the Russian Ministry of Internal Affairs and the ministries of

Central Bureau of Russia works with Interpol in combating the illicit SALW trafficking[162].

To the improve the transparency of MANPADS transfer in CIS, an Agreement between the Government of the Russian Federation and Cabinet of Ministers of Ukraine was signed and entered into force on November 18, 2009 for an information exchange on MANPADS Igla and Strela if these weapons are exported to third countries or imported from third countries.

A similar agreement between the Russian Federation and Uzbekistan entered into force on 18 February 2008. On 14 November 2008, CIS member states signed an agreement to cooperate against the illicit manufacture and trade in small arms, light weapons and ammunition, explosive substances, and explosive devices. On 28 August 2008, SCO member states signed an agreement on cooperation in fighting illegal arms, ammunition and explosives circulation, and on 11June 2010 the participants signed an agreement on cooperation in fighting crime.

A few suggestions were offered to improve the Programme, but were never implemented. Russia did not support such improvement proposals either[163], although it would seem that

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the following states: Azerbaijan, Albania, Angola, Argentina, Armenia, Afghanistan, Bahrain, Belarus, Bosnia and Herzegovina, Hungary, Vietnam, India, Iran, Italy, Kazakhstan, Canada, Cyprus, China, South Korea, North Korea, Cuba, Kyrgyzstan, Latvia, Lithuania, Macedonia, Moldova, Mongolia, Pakistan, Poland, Romania, Slovakia, Tajikistan, Tanzania, Turkey, Turkmenistan, Uzbekistan, Ukraine, France, Montenegro, Czech Republic, Sweden, Switzerland and Estonia.

[162] This is the jurisdiction of the Interpol's National Central Bureau of Russia with the Russian Ministry of Internal Affairs. The National Central Bureau in Russia receives the inquiries, processes and forwards the inquiries about firearms circulation to Interpol General Secretariat and national bureaus of other states, maintains the firearms database, as well as provides the access to national databases in IETS framework.

[163] Abstract from Litavrin, Head of Russian delegation, address at the Programme Review Conference (New York, 26 June –7 July 2006): 'We believe it is reasonable to, instead of amending and revising the document language, document such amendments and revisions as Protocols and Appendices. Legal exports should be discussed only with the purpose of disrupting the illicit SALW circulation and when specific actions are expected to be developed to prevent SALW leaking into the black market. At the same time, the situation should not be politicized and we need to avoid any approaches which could be interpreted as restrictions against any individual state or a group of states'.

Russia should be very concerned with illicit SALW exports. The illicit firearms are supplied to the insurgents in the North Caucasus, various separatist groups in troubled areas along its border as well as criminal gangs.

Moscow believes that any revisions or amendments should be, instead of being incorporated into the Programme language, documented as Protocols and Appendices. The Russian Federation also views the following measures as an efficient instrument against the illicit proliferation of SALW or firearms leaking into the wrong hands or terrorist groups:

- manufacture of SALW should be completely stopped if the license expired or in event of unlicensed manufacturing;
- greater control of SALW re-exports;
- prevention or interception of SALW re-exports to countries affected by the UN Sanctions;
- ban of any SALW modifications made without permission from the country that owns the technology;
- introduction of the procedures when the exporter would check the importer has ensured proper storage and use of certain types of SALW, especially MANPADS (combating illicit MANPADS trafficking could unite many states worldwide);
- rejection of SALW sales to non-governmental groups;
- heavy government regulation of SALW brokering, including restrictions on the number of operating brokers, which some countries could have as many as a few dozens or hundreds.

Certainly, an abundance of available brokers hampers the regulation of brokering activities and facilitates SALW leaking to grey and black markets.

With this in mind, Russian proposals to look for ways to reduce the number of intermediates in arms sales are quite reasonable and deserve support. In general, fewer brokers can improve the efficiency of the government control of all military trade, not SALW alone. (For reference, the Russian Federation has only one government arms broker – OJC ‘Rosoboronexport’). Besides, Russia does not allow individuals to sell guns.

The above Russian proposals have not been rejected by other states, but have not been approved either, hence they were not documented in any Appendix to the Programme.

The Meeting of States on 14-18 June 2010 to consider the implementation of the Programme did not contribute anything new to tackling the illicit SALW trade.

Apart from the usual and fairly standard appeals to the states to introduce national SALW regulations, including criminal liability, the overview report urges the states to create national contact centres for information exchange and communication with regards to the International Tracing Instrument, as well as calls for expanding the contacts between the states in information exchange. The proposal also suggested the Interpol coordinating the inquiries.

The final document of the meeting, unfortunately, reveals there was no breakthrough in the international SALW control[164].

Based on the UN General Assembly resolutions on SALW[165] and other UN documents dealing with SALW[166], majority of states did not alter their views on firearms control, despite growing illegal SALW circulation and more armed conflicts. For instance, prior to the Second Review Conference on SALW, the UN Secretary General reiterated that the illicit trade in small arms and light weapons and their proliferation fuel the political turmoil and extend and escalate the armed conflicts.

The world witnessed the ramifications of such illicit trade in a few countries in the time between the review conferences (2006–2012). In particular, a large flow of SALW in the time of crisis in Libya exacerbated the fragile situation in the region. For instance, the UN Assessment Mission to Libya's Sahel region found that a lot of weapons and ammunition were looted from the arms depots, including anti-tank grenade launchers, machine guns with sighting devices for air-targets and light AA guns.

UN Expert groups and control groups assisting the sanction committees, identified facts of illicit firearms trade in the regions[167].

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[164] UN Document A/CONF.192/BMS/2010/WP.4 distributed 24 May 2010.

[165] UN Document A/RES/64/50 distributed 12 Jan. 2010. 'The illicit trade in small arms and light weapons in all its aspects' and A/RES/64/30 distributed 12 Jan. 2010. 'Assistance to States for curbing the illicit traffic in small arms and light weapons and collecting them'.

[166] UN Document A/65/132 distributed 15 July 2010 (Report of the Secretary-General 'Relationship between disarmament and development') and UN Document A/65/133 distributed 15 July 2010.

[167] See Report of the Secretary-General 'The illicit trade in small arms

The key message of the Second Review Conference was the same: illicit SALW trade keeps fuelling conflicts, intensifies violence, undermines trust in international law and international standards in human rights, facilitates terrorism and maintains illegal armed groups, fosters the spread of transnational organized crime, as well human trafficking, drugs and some natural resources.

The 2012 Review Conference did not reveal any major disagreement, however, there was no real breakthrough (compared to the First Review Conference in 2006) either[168].

The Russian Ministry of Foreign Affairs hailed the success of the Second Review Conference in 2012. It added, however, that 'despite the differences in national approaches to quite a few issues, the community reached a consensus on the final documents of the forum'. 'Russia deemed the Conference' results were reasonable for the purpose of the further implementation of the Programme'[169].

The Conference adopted the following documents.

***1. Declaration 2012***

This Declaration confirmed the relevance and paramount importance of the UN Programme of Action on SALW as a global platform for prevention and eradication of illicit SALW trade in all its aspects. The Conference also confirmed that a full and efficient implementation of the Programme is a key to building a peaceful and secure world, reconciliation, protection of human lives and the sustainable development.

The Conference emphasized, that the illicit trade in SALW continues to be a major factor contributing to extension of armed conflicts, exacerbates armed violence, undermines respect for international humanitarian law and international human rights standard, fuelling terrorism and arming illegal armed groups and leading to expansion of transnational organized crime, as well as human trafficking and trafficking of some natural resources.

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and light weapons in all its aspects' // UN Document A/67/176 distributed 25 July 2012.

[168] See national views in the Report of the UN Secretary General 'Progress made on the implementation of the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, 10 years following its adoption', UN Document A/67/113 distributed 25 June 2012.

[169] <http://www.mid.ru/bdomp/ns-dvbr.nsf/416a07318ecf41dd432569ea 00361456/c32577ca00173dc044257 a75003b49b1!OpenDocument>.

The participants welcome the considerable progress that has been made in implementing the Programme of Action and the International Tracing Instrument, including on the establishment, strengthening and enforcement of national laws, regulations and administrative procedures, designed to prevent the illicit trade in SALW, illegal manufacturing of firearms, the development of national action plans, the establishment of national points of contact, the submission of voluntary national reports and strengthening of regional cooperation, as well as the progress made in ensuring the security of stockpiles, collection and destruction of illegal SALW, marking of small arms and light weapons, technical training and information exchange.

The Declaration highlighted that the implementation was irregular in different countries, still posing significant challenges and obstacles to realising the goals of the Programme of Action, and expressed the commitment to meet the challenges, including the international cooperation and assistance. It has been noted that limited resources and differing capacity of states still pose significant challenges and obstacles to realising the goals of the Programme. Therefore, there is a need for increased levels of requested technical and financial assistance – to build national and regional capacities, to ensure the full and effective implementation of the Programme of Action and the International Tracing Instrument.

The states confirmed their commitment to rid the world of the scourge brought upon it by the illicit manufacture, transfer and circulation of small arms and light weapons and their excessive accumulation and uncontrolled spread in many parts of the world.

The Declaration set an aim to achieve clear and tangible results by 2018 that will improve the security, safety and livelihood of people by undertaking the measures in the accompanying implementation plans.

***2. Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects***

The Programme reaffirmed the political commitment of the participating states to promote the implementation of the Programme at the local, national, regional and global level in 2012–2018.

The Programme participants are expected to: put in place relevant laws, regulations and administrative procedures in order to prevent illegal manufacture of and illicit trafficking in SALW; strengthen national coordinating mechanisms to enhance the coordination between the government agencies, law enforcement, national border and customs control agencies or agencies licensing the firearms transfers; enhance cooperation with relevant regional and international organizations, such as the World Customs Organization and Interpol in order to build up the capacity to prevent and eradicate the illicit trade in SALW; encourage states to consider ratifying international legal instruments against terrorism and transnational organized crime, including the United Nations Convention against Transnational Organized Crime and associated Protocols, in particular the Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the Convention; facilitate cooperation with civil society, academics and industry to prevent the illicit trade in small arms and light weapons.

***3. Follow-up to the Second United Nations Conference to Review Progress Made in the Implementation of the Programme of Action to prevent, combat and eradicate the illicit trade in small arms and light weapons in all its aspects***

This document approved the schedule of meetings: a biennial meeting of states in 2014 and 2016, and a meeting of governmental experts in 2015. The third United Nations conference to review progress made in the implementation of the Programme of Action is scheduled for 2018.

No specific topics have been identified, but the states were recommended to be prepared to discuss the ‘political and technical aspects and the relevant and emerging issues that have a direct impact on the full and effective implementation of the Programme of Action’. In addition, this document reaffirmed the utility of synchronizing voluntary national reporting, as regards the Programme of Action, with biennial meetings of States and review conferences as a means to increase the submission rate and improve the utility of reports, as well as to contribute substantively to meeting discussions.

***4. Outcome document on the International Instrument to Enable States to Trace, in a Timely and Reliable Manner, Illicit Small Arms and Light Weapons***

The document confirmed that marking, record-keeping and tracing are highlighted as key measures to fight the illicit trade in small arms and light weapons, but the choice of specific methods are national prerogatives. It calls for strengthening of the inter-agency coordination at the national level in order to facilitate timely responses to tracing requests; the exchange of tracing results between appropriate authorities at the national, regional and international levels; enhance the cooperation with relevant bodies, organs and missions of the United Nations, as well as with relevant regional organizations with regards to tracing of illicit SALW.

Fairly new additions to the document were: an appeal to enhance linkages between the International Tracing Instrument and the Protocol on firearms, supplementing the United Nations Convention against Transnational Organized Crime, as well as to provide further information in their national reports, such as: the implications of recent developments in small arms and light weapons manufacturing, technology and design for effective marking, record-keeping and tracing; practical steps to ensure the continued and enhanced effectiveness of national marking, record-keeping and tracing systems in the light of such developments; relevant practices in relation to international assistance and capacity building, including ways to support the transfer, uptake and effective utilization of relevant tools and technologies[170].

It should be noted though, that the conference failed to deliver the expected breakthrough in SALW trade controls. The prime reason is that reaching an agreement on SALW, and, all the more so, releasing universally acceptable documents, is traditionally hampered by differing views on how to approach SALW problem.

There is a wide range of such approaches: ranging from the most radical approaches which make no difference between the licit and illicit trade in SALW, to 'minimalistic' approaches which are

[170] More about the Conference resolutions: Report of the United Nations Conference to Review Progress Made in the Implementation of the Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects. UN Document A/CONF.192/2012/RC/4 distributed 18 Sep. 2012. See the conference proceedings and national reports at: <http://www.poa-iss.org/RevCon2>.

restricted to some international cooperation in combating the illicit SALW trade without any external interference in the national law or practices.

That said, we need to keep in mind that largest SALW exporters and importers are reluctant to make any international commitments in SALW regulation which jeopardize their interests in any way. For instance, the USA, a long-time global leader in SALW exports and the largest firearms manufacturer, has been emphasizing the precedence of national law regulating the manufacture, trade, regulation and storage of SALW, since, admittedly, the US laws are a lot more advanced and tougher than any international agreements or commitments.

Another important factor is a huge influence of American gun lobby, which has been vocal in opposing any restrictions for US citizens to legally own guns, since such restrictions would reduce the revenues of gun barons.

The US has been traditionally at odds with the EU on SALW issues. All EU member states have a consolidated position, usually gravitating towards a more radical approach. Russia, as we reviewed earlier, is also reluctant to make any improvements to a fairly vague UN Programme of Action.

## Conclusion

The illicit small arms are a part of a wide range of global international problems, where conflicts, security, armed violence, crime, trade, human rights and development are all linked together.

Effective control over the circulation of small arms and light weapons is key to success. The analysis revealed the existing measures are inadequate, unreliable and ineffective; therefore, armed conflicts will remain an integral part of the world politics in the first half of the XXI century.

There would not be just one single cause for an armed conflict, but rather a complex web of various socio-political, economic, ethnic, sectarian and many other controversies. It appears there will be more conflicts with large-scale violence. Most importantly, small arms and light weapons will be primary tools of war in many existing and future conflicts, flooding the world with 7-8 million new firearms every year.

Keeping in mind the international nature of both licit and illicit trade in small arms and light weapons, as well as the ease of SALW transportation, we may conclude, that the international community has not found a universal and effective way to prevent the irresponsible and illicit firearms exports, including the exports in violation of international and regional embargos.

The situation will persist until the political commitments in conventional arms control, including SALW, are integrated in one universal and legally binding document, and the international standards, which states committed to abide by, are formulated in a universal and transparent system mandatory for all states worldwide.

## PART II. EXPERT INSIGHTS

## 5. 'CONTEMPORARY PROBLEMS OF NUCLEAR NON-PROLIFERATION'. THE FIFTH ANNIVERSARY CONFERENCE OF THE INTERNATIONAL LUXEMBOURG FORUM ON PREVENTING NUCLEAR CATASTROPHE

Vladimir YEVSEEV

Throughout the post-war years, the world scientific community has been actively seeking to influence the process of nuclear arms control and to strengthen the nuclear non-proliferation regime.

In 1955, the Russell-Einstein manifesto signed by eleven leading scientists laid the foundation of the Pugwash movement of scientists – the international non-governmental research organization which was awarded the Nobel Peace Prize in 1995 for long-term efforts to reduce nuclear threats.

In June 1981 representatives of the American scientific elite: Professor Marvin Goldberger, president of the California Institute of Technology; Professor Wolfgang Panofsky; Professor Paul Doty, director of the Linear accelerators Center at Stanford University; and Spurgeon Keeney, former deputy director of the Arms Control and Disarmament Agency, came to Moscow at the invitation of the President of the Russian Academy of Sciences Academician Anatoly Alexandrov. During the visit, they agreed with a group of Soviet scientists which included Nikolai Inozemtsev, Yevgeny Velikhov, Georgi Arbatov, Vitali Zhurkin and Vitali Goldanskii about maintaining permanent contact and joint research in the field of limitation and reduction of strategic nuclear weapons. The visit

took place at the time of 'cooling' in the bilateral state relations. Later, this group became known as the Standing Committee of the Russian Academy of Sciences – National Academy of Sciences of the USA for International Security and Arms Control[171].

The above-mentioned groups are currently active today and demonstrate their high potential and relevance in the world today. In addition, new organizations have emerged, bringing together scientists from around the world to develop specific proposals on key issues of regional and global security. One should mention the International Commission on Weapons of Mass Destruction (chaired by Hans Blix, the famous Swedish scientist and public figure, Director General of the International Atomic Energy Agency in 1981-1997); the Canberra Commission on nuclear weapons; the International Commission on Nuclear Nonproliferation and Disarmament, co-chaired by Gareth Evans and Yoriko Kawaguchi, former foreign ministers of Australia and Japan respectively.

The International Luxembourg Forum on Preventing Nuclear Catastrophe is nowadays a unique platform. In a short time the Forum has managed to bring together a representative group of prominent experts in the field of nuclear non-proliferation, arms limitation and reduction.

The Luxembourg Forum was established by the International Conference on Preventing Nuclear Catastrophe held in Luxembourg on 24–25 May 2007.

The main tasks of the Forum are:

a) promoting the arms limitation and reduction process, countering threats to the non-proliferation regime; preventing nuclear terrorism and attempts by individual countries and entities to gain illicit access to nuclear materials and technology;

b) strengthening global peace and security through the development of new approaches and practically oriented proposals for political leaders on the key issues of nuclear non-proliferation and arms control[172].

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[171] Laverov, N.P., Yevseev, V.V., Shiyan, J.K., 'Arms control: 30 years of cooperation of the Academy of Sciences of Russia and the USA', *Bulletin of the Russian Academy of Sciences* (Moscow, July 2012), p. 653.

[172] International Luxembourg Forum on Preventing Nuclear Catastrophe, <http://luxembourgforum.org/ events/aboutforum>.

The International Advisory Council (IAC) and the Supervisory Council are main bodies of the Forum.

The IAC includes about fifty leading experts from different countries. The IAC members make proposals on the agenda, organize events, and participate in the preparation of the final documents of the Forum for sending to the leading politicians, international organizations and public figures around the world.

The Supervisory Council is composed of prominent politicians, public figures and renowned scientists. It includes Hans Blix; Gareth Evans; Sam Nunn, co-chairman of the 'Nuclear Threat Initiative'; William Perry, former US Secretary of Defense; Rolf Ekeus, Chairman of the Governing Board of the Stockholm International Peace Research Institute, SIPRI (2001-2011); Igor Ivanov, President of the Russian Council on International Affairs (INF) and former Russian Foreign Minister; Nikolai Laverov, Academician, Vice-president of the Russian Academy of Sciences; Roald Sagdeev, Academician, Professor at the University of Maryland.

Members of the Supervisory Council give recommendations on various aspects of the Forum's activities aimed at promoting peace and security.

The President of the Forum is Viatcheslav Kantor, Ph.D., a well-known international public figure, philanthropist, entrepreneur and investor. Viatcheslav Kantor heads a number of international NGOs.

The Forum established a relationship with the IAEA almost immediately – in 2007 at the International Conference on Preventing Nuclear Catastrophe in Luxembourg where IAEA Director General Mohamed El-Baradei made a welcoming speech.

At the end of March 2008, Mohamed El-Baradei received representatives of the International Luxembourg Forum – Alexei Arbatov and Vladimir Dvorkin. During this meeting, the sides exchanged views on the prospects of the 2010 NPT Review Conference. Representatives of the Forum presented to the IAEA Director General their views on the complex issues associated with the Iranian nuclear program and the prospects for a peaceful settlement through dialogue, as provided by the relevant UN Security Council resolutions. Special attention was paid to the need to strengthen the IAEA safeguard system, including effective compliance with the Comprehensive Safeguards Agreement and the

Additional Protocol (1997), and to improve control of the nuclear fuel cycle.

Thereafter, until the Fifth Anniversary Conference in 2012 Luxembourg Forum had held fifteen major events in the format of international conferences, seminars, meetings of the Supervisory Council of the Forum and its working groups. They were held in Moscow and other European capitals, as well as in Washington. These events helped to involve highly respected experts in the Luxembourg Forum activities.

Close relationships with major international organizations have been established (such as the Pugwash movement of scientists, the Stockholm International Peace Research Institute).

The Luxembourg Forum has published a large number of books, brochures, leaflets informing the international community of its activities.

The agenda of the Forum is wide and includes both general issues of strategic offensive weapons reduction, strengthening of the nuclear non-proliferation regime, and specific topics (such as the Iranian nuclear program, North Korean nuclear crisis, possibility of cooperation between Russia, the USA and other NATO countries in the BMD field).

Luxembourg Forum events usually result in the adoption of a final document.

The achievements of the International Luxembourg Forum were summed up at the Fifth Anniversary Conference which was held in Berlin on 4-5 June 2012. The Conference was attended by 54 leading experts from 11 countries, senior representatives of the German Government, the IAEA, as well as foreign embassies. Russian Foreign Minister Sergei Lavrov sent a greeting message to the participants[173].

At the Conference, European experts expressed the view that the nuclear non-proliferation and reduction of strategic arms are inextricably linked. They indicated strong support for the ratification of the Prague Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms signed in Prague (the New START Treaty).

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[173] Anniversary Conference of the Luxembourg Forum in Berlin, 4-5 June 2012, <http://luxembourgforum. org/forum/berlin-2012>.

An in-depth discussion of the Iranian and North Korean nuclear crises, as well as on ways of ensuring security in Europe, including the European BMD system took place. In particular, the exercises with elements of computer simulations on theatre missile defence operations (TMD) which took place in late March 2012 in Ottobrunn (Germany) were highlighted. The exercises (related to the NATO-Russia Council) were held with the aim of examining various options for BMD in Europe. They were organized by the German Air Forces with the support of the NATO Command and the Special Unit for extended air defence[174]. The exercise was attended by Russian specialists as well as experts from NATO[175].

Conference participants paid much attention to strengthening the regime of nuclear non-proliferation. It was noted that 105 states comply with the 1997 Additional Protocol to the IAEA Safeguards Agreement. However, six countries with advanced nuclear programs, including Argentina, Brazil, Egypt and Iran, believe that this Protocol is discriminatory. Therefore, these states' refusal to comply with it creates a serious problem in the field of nuclear non-proliferation.

The experts made a number of recommendations, in particular: a) to the UN Security Council: to avoid the duplication of the IAEA activity by excluding consideration of issues related to the development of nuclear energy in the absence of a serious threat of the nuclear non-proliferation regime; b) to the IAEA: to consider the suggestion that the fuel bank is not an alternative for independent production of such fuel.

Conference participants cautioned against the danger of falling into the 'trap of a nuclear-free world', before appropriate conditions are created.

The IAEA representatives who participated in the Conference highlighted the need to increase the number of nuclear-weapon-free zones (NWFZ). In some regions of the world, such zones already exist and successfully constrain the spread of nuclear weapons.

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[174] The Special Unit for Extended Air Defence – an organization composed of two countries: Germany and the Netherlands.

[175] North Atlantic Treaty Organisation, 26 Mar. 2012, <http://www.nato.int/cps/ru/SID-8E524DA4-6CC85397/natolive/news_85685.htm?selectedLocale=ru>.

Another related issue requires urgent attention: the establishment of strict and effective control over the production, storage, export (import) of fissile materials in all nuclear countries.

Many experts expressed concern that the process of further reductions of strategic offensive weapons was in a deadlock.

The emergence of the BMD problem shows the existence of the remnants of the old thinking. The main problem is the lack of confidence which can only be resolved through cooperation. Russian expert opinions on the ways to address this issue differ. Some experts believe that Moscow has the right to demand from Washington to provide legal guarantees that the BMD system is not directed against Russia. The reason for this is the following: at the turn of 2018-2020, this system can undermine the potential of the Russian strategic nuclear forces. It is necessary to develop criteria that would allow Moscow to confirm the fact that the BMD system is not directed against it. Otherwise, Russia will be forced to respond with measures of military-technical nature.

Other experts believe that Russia sets unacceptable terms to the US on the developing of the BMD system. In their view, technical specifications of the American system should not be restricted. It makes more sense to agree on its architecture, considering the US BMD and Russian Aerospace Defence in the same coordinate system. Moreover, if Russia and the US are able to establish cooperation in the BMD field it will inevitably lead to a change in the concept of nuclear deterrence.

It was also noted that the emerging NATO BDM system in Europe had no significant effect on the Iranian nuclear program. In fact, it can be seen as an implicit consent of the West to the Iranian nuclear status. Such a situation suits Tehran because it makes possible to play on the Russian-American contradictions.

In the opinion of international experts, the problem of tactical nuclear weapons (TNW) reduction deserves a special consideration. Unilaterally, Russia has cut some TNWs, removed others from service and placed them in central storages. The international process of further reductions could go as follows: the removal of TNWs to the national territory, the destruction of the infrastructure. The United States must begin the process.

Significant divergence of positions remains on tactical nuclear weapons. From the US point of view, tactical nuclear weapons have little effect on the process of nuclear deterrence, and

its presence in Europe is defined only by political reasons. The NATO summit held in 2012 in Chicago approved the retention of US tactical nuclear weapons in Europe.

The danger of nuclear terrorism especially with the possible participation of extremists was addressed.

The arms race in South Asia was also discussed. Pakistan is developing Shaheen-2 – a mobile two-stage solid-fuel missile with a range of up to 2500 km. Haft-7 cruise missile has already been tested. It is capable of delivering a nuclear warhead to a distance of 700 km. India, for its part, has tested Agni-5 – a three-stage ballistic missile with a range of more than 5000 miles. It is able to carry three independently targetable warheads. In 2014, Sury ICBM can be tested with a range of 8000–12000 km, capable of carrying 10 warheads. India is creating three nuclear submarines.

In regard to the Iranian nuclear problem, the effectiveness of the financial and economic sanctions against the Islamic Republic of Iran was noted by the American experts. However, Tehran continues to produce enriched uranium. It would be premature to exaggerate or diminish the threat from it.

The amount of low-enriched uranium (LEU) already in Iran's possession is enough to produce (after additional enrichment) four nuclear warheads. Over the last year the production of LEU in Iran has increased by 30%. In addition, 145 kg of Iranian uranium have been enriched to 20%.

The new uranium enrichment facility in Fordo is situated inside the mountain at the depth of 80-90 m. Iran failed to start more modern gas centrifuges R-2. Apparently, it became impossible after the tightening of the export control rules on the basis of UN Security Council sanctions. For similar reasons, the launch of heavy water research reactor in Arak, IR-40, with the capacity of 40 MW, which will be able to produce 9 kg of plutonium every year, is shifted to the first quarter of 2014. According to the US data, once a political solution is made Tehran would need one year to produce a nuclear bomb.

It was noted that there were high expectations concerning Tehran after the Istanbul (2012) talks of the 'six' international mediators to resolve the Iranian nuclear crisis. However, the concessions on its part will only be possible, if the EU imposed financial and economic sanctions are eased.

The Chinese expert proposed not to limit the concept of security to strategic stability. In his opinion, it is necessary to distance oneself from the discussion of the terms and pay more attention to moral values. In essence, strategic stability is rhetoric. After all, strategic stability cannot be achieved without nuclear weapons which requires strategic trust. It was stated that Beijing is not a problem for the preparation of the treaty banning the production of fissile material for military purposes. Although stocks of such materials in China are not large, it is not going to produce weapons-grade nuclear material.

Experts from the Republic of Korea focused on the North Korean nuclear problem. They noted that after the death of Kim Jong Il the country is headed by 26-year-old son Kim Jong Un. He is a weak political figure who holds power only through the support of family members. In their view, in the current circumstances it is extremely difficult to achieve denuclearization of the Korean Peninsula. Despite the introduction of political and economic sanctions by the UN Security Council a large-scale illegal trade continues amounting to $1 billion a year.

Following the tradition, at the end of its work session the Conference adopted a final document. The document is published in this edition.

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The Fifth Anniversary Conference of the International Luxembourg Forum on Preventing Nuclear Catastrophe was an important event. It summed up the Forum’s fruitful activity of five years, identified serious problems in strategic arms reduction and non-proliferation and outlined ways to resolve them. Thus, a long tradition of active involvement of scientists and independent experts in strengthening international security has been continued.

## 6. RUSSIAN EXPERTS ON ENGAGING CHINA IN MULTILATERAL NUCLEAR ARMS CONTROL NEGOTIATIONS[176]

Tatiana ANICHKINA

While China is the most secretive in terms of information of all the official NWS, it has considerable potential for the build-up of its arsenal and is not an ally of any other member of the 'nuclear club'. Its accession to the relevant negotiations is an absolute necessity in terms of global and regional strategic stability, security, and prospects for nuclear disarmament.

First, the international community is concerned with China's reluctance to assure the transparency of its nuclear weapons program and nuclear posture. As a result external experts have great difficulties in assessing the Chinese nuclear potential.

Second, a critical line is already seen in the reduction and limitation of nuclear arms that Russia and the United States would not cross without the accession of other NWS. Interests of national security and strategic stability would prevent both Moscow and Washington (which under the 2010 New START Treaty agreed to limit their nuclear forces to no more than 1550 warheads) from

[176] The author used the materials of *'Prospects for China's Participation in Nuclear Arms Limitation'*, Ed. by A. Arbatov, V. Dvorkin, S. Oznobishchev (Moscow: IMEMO, 2012). This collection of articles is based on the conference proceedings held on 28 June 2012 at the Institute of World Economy and International Relations of the Russian Academy of Sciences. The conference was a part of continuing efforts of Russian experts to investigate the possibility of engaging nuclear armed states in the process of arms control and nuclear weapons reduction.

deeper reductions if the assessment of the Chinese nuclear arsenal of 1600-1800 warheads is found well grounded.

Vassily Mikheev, Russian Academy of Sciences' corresponding member and IMEMO deputy director, investigates two aspects: 'how China *perceives* threats to its security, and what threats to global and regional security China itself *poses*'. For this end he analyses major trends of China's modern development and external threats to the country, as well as threats and challenges that Beijing constitutes on regional and international levels.

Among key trends in China's development Mikheev points out the country's transformation into a market economy with the Communist Party holding a monopoly on power. Secondly, in the foreign policy Beijing would like to position itself as a leading player but it is still unwilling to assume respective responsibility. Rapid political and economic transformations pursued by the Chinese leadership 'are creating difficulties in its perception by the world community'.

China views external threats to its national security through the prism of economy and domestic policy. To maintain the stability of the current regime China has to interact with the West to prevent a new economic crisis, as well as to restrain itself when it comes to the regional conflicts outside the area of Chinese vital national interests.

The Chinese nuclear missile program is 'primarily a status symbol'. The same status motivation will define its role in the dialogue with other countries on nuclear arms control issues.

As for Taiwan, Beijing banks above all on economic and cultural leverages. At that it reacts sharply to the US activity in the region as it assumes that the US intent is to form an 'arc of containment' for China through the alliances with the Chinese neighbors in the Asia-Pacific region: Japan, South Korea, Australia, Philippines, Vietnam, and India.

As a counterbalance, China increases its own military power, improves its strategic mobility, overcomes the bounds of the US 'arc of containment', and establishes military strongholds in far-abroad regions.

Mikheev believes that Chinese leaders are concerned about the following countries, regions and issues:

- The demographic tension created by North Korean refugees fleeing the country as the socioeconomic situation there deteriorates.
- A specific scenario for a military threat on the part of North Korea: 'the collapse of the North Korean regime, loss of control over its nuclear weapons, nuclear arms getting into the hands of North Korean terrorists, their sale in other countries, etc.'.
- Territorial claims in the South China Sea region.
- Central Asia and Afghanistan as a source of terrorist and separatist threats.
- Territorial disputes with India in Tibet.
- Also India is perceived as 'the main potential military and political competitor in the struggle for oil resources and supply lines'.

In Mikheev's opinion China does not represent a strategic nuclear threat to the US and Russia; however their perception of it is affected by two factors. First is the predominance of the communist (nationalist) ideology in China. Second is the increase of China's military spending.

The expert defines the nature of challenges China poses for the international community as 'noncritical aggressiveness': external aggressive behavior is only natural for a 'newcomer' of the world leading powers club. However due to its deep engagement with the global economic, energy, and financial systems China cannot exceed certain limits without inflicting 'unacceptable damage to its economy and internal political stability'.

Mikheev suggests mitigating the effect of 'noncritical aggressiveness' through Beijing's involvement in a broad security dialogue on such topics as strategic stability, North Korea, Central Asia, and Afghanistan while trying not to step up the disputes over the South China Sea and Taiwan.

According to Alexander Lukin, vice-chancellor of the Diplomatic Academy of the Russian Ministry of Foreign Affairs, the concept of 'independent and autonomous foreign policies' adopted at the 12th National Congress of the Communist Party of China (CPC) in September 1982 has been defining Beijing's foreign policy ever since. The essence of the concept is to avoid alliances with any of the superpowers thus equating the USSR and USA as

partners or adversaries, but most importantly – to subjugate foreign policy to the goals of the country's economic development.

Lukin points out the following elements of the above concept:

- Independence in defining the foreign policy course: China 'does not submit to any outside pressure, does not establish any strategic relations with major powers or blocks of countries, does not participate in the arms race, and does not pursue military expansion'.
- Defence of international peace and equality of states: Beijing 'opposes hegemonism' and intervention in the internal affairs of other countries.
- Participation in the creation of a new international political and economic order which 'must reflect the requirements of the march of history and express the general desires and interests of the peoples of the world'.
- Development of international cooperation based on the five principles of peaceful coexistence: 'mutual respect for sovereignty and territorial integrity, mutual non-aggression, non-intervention in one another's internal affairs, equality and mutual benefit, and peaceful coexistence'.

The expert maintains that since the 1980s China has been adhering to these principles: with the exception of the vital interests that China can not relinquish (the recognition of Taiwan and Tibet, and earlier – Hong Kong and Macao – as a part of the PRC), the predominant trend in relations with other countries, especially neighboring ones, has been to resolve 'territorial and other disputes by way of compromises for the sake of the development of trade and economic cooperation' and not to intervene in international conflicts that do not directly concern Beijing.

The domestic economy accounts for the more active Chinese role in world politics.

First, rapid development of the country has effectively turned China into a major player in the world economy and politics. Second, the model of the Chinese economic development has led it to a shortage of resources and the necessity of finding new sales markets to maintain fast and steady economic growth.

Furthermore a number of problems (with the environment and an overabundant work force) associated with the accelerated

economic development have transcended the national borders and begun to concern regional countries and the global community.

As a reaction to such concerns the Chinese government advanced an ambiguous theory of 'peaceful ascent' in 2003, only to replace it several years later with an idea of 'harmonious world'. The latter has been incorporated into the CPC's Charter and calls for creation of the harmonious world: 'Based on strict compliance with international law and the generally accepted rules of international relations, it is necessary in these relations to cultivate the spirit of democracy, accord, cooperation, and mutual gain'.

Lukin believes that the goal of the concept is 'to mollify the world as far as the objectives of Chinese expansion, as well as to demonstrate that the PRC's role in the world is constructive and that its strengthening is even beneficial to everyone else'. For some time the idea of a 'harmonious world' was quite effective as proved, according to the expert, by the 2009 statements by H. Kissinger and Zb. Brzezinski – two patriarchs of the US foreign policy – on the international stability depending on the ability of Beijing and Washington to cooperate.

However, by 2010 the attitude of the West towards Chinese actions on the international arena began to change: prosecution of dissidents, Beijing's hard line on Tibet and North Korea, as well as on the global warming issue resulted in a more 'assertive' foreign policy approach.

Lukin insists that this assertiveness should be perceived calmly as the aspiration of a major and successful power to actively defend its external interests. At the same time, he continues, it is impossible not to note an increase of nationalism among the Chinese elites.

The expert concludes that the Chinese society including its ruling circles is divided by serious differences on the nature of the Chinese foreign policy course.

Moderate analysts claim that China's active protection of its interests does not mean that Beijing strives to become a superpower as it is committed to peaceful means of development, international cooperation and the improvement of the global economic integration.

In contrast to such assertions, Lukin gives examples of serious deterioration of China's relations with the USA both in political and economic spheres, which in its turn affects even more

stable Chinese-Russian relations. Overall the growth of Beijing's 'self-assertion' 'may affect not only the interest of the USA, but to an even greater extent, the position of China's neighbors, including Russia'.

Victor Esin, the leading research fellow of the Institute for the US and Canadian Studies and a former Head of Staff of the Russian Strategic Rocket Forces, claims that the world community obviously underestimates the nuclear potential of China: 'In all likelihood, the PRC is already the third NWS today after the USA and Russia, and undoubtedly has technical and economic capabilities that will permit it to rapidly increase its nuclear might if necessary'.

There is another argument to support this conclusion – the existence of an elaborate system of underground tunnels constructed by military builders in China's central provinces. According to Esin, it is simply not possible to imagine any other military use for these structures than as a storage facilities for 'a considerable number of standby mobile missile launchers with ballistic and cruise missiles as well as nuclear munitions'.

Esin recommends 'that the Chinese factor should necessarily be taken into account when considering the possibility of conclusion of any subsequent US-Russian agreement on the limitation and reduction of nuclear weapons'.

On the basis of his analysis of the output capacities of Chinese plants for production of special fissile materials Esin estimates that 'they could have turned out up to 40 tons of weapons-grade uranium and approximately 10 tons of weapons-grade plutonium as of 2011. This is enough to manufacture of 3600 nuclear warheads: 1600 uranium and 2000 plutonium'. According to Esin, 'the PRC's nuclear arsenal probably numbers 1600-1800 nuclear warheads. Among them, 800-900 units may be intended for operational deployment, while the remainder is intended for long-term storage or awaiting recycling'.

The expert cites a detailed list of nuclear weapons produced by the Chinese military industry. The air component of the PRC's nuclear forces consists of strategic aircraft which includes Hong-6 (H-6) long-range bombers (approximately 60 deployed with roughly just as many in storage) and tactical aircraft represented by Qiang-5 fighters-bombers and other strike aircraft (about 300 in total) the prototype of which is Russian Su-30 multipurpose fighter.

The total stock of B-4 and B-5 aerial bombs intended for operational deployment is 440 units.

The land component of the Chinese nuclear forces consists of the Strategic Missile Forces and the missile complexes of the PLA's Ground Forces. The Strategic Missile Forces are represented by the Second Artillery which includes six missile bases. According to the expert's estimates, the land component of the Chinese nuclear forces may have approximately 360 warheads intended for deployment. Esin believes that 'ground-based mobile missile systems with Dongfeng (DF) 31/31A ICBM are kept in readiness for immediate use' which means that the nuclear warheads are permanently attached to missiles on launchers in their transportation and firing tubes.

The sea component of China's nuclear forces includes two types of nuclear-powered ballistic missile submarines: a Xia class submarine (Type 092) with 12 Julang (JL)-1 SLBMs and two Type 094 submarines with 12 JL-2 SLBMs on each. Thus, 36 JL-1/2 SLBMs with the total of 45 units of munitions are currently deployed with the sea component of the PRC's nuclear forces.

As for the prospects for the development of the Chinese nuclear forces which primarily depend on the nuclear potential of the neighboring countries and the US plans to create a global BMD, Esin specifies a number of relevant military programs:

- modernization of existing and series production of new versions of H-6 long-range bombers;
- equipping existing and future ballistic missile with multiple reentry vehicles and penetration aids;
- development of two new solid-fuel ballistic missiles: MRBM of DF-25 type and ICBM of DF-41 type;
- stepping up and improving the quality of Type 094 submarine;
- modernization of JL-2 SLBMs and their equipment with MIRVs;
- construction of a prototype Type 096 submarine.

Alexander Khramchikhin, deputy director of the Political and Military Analysis Institute, investigates the PLA military command and control and its branches. He points out that the Central Military Commission runs the four branches of the armed forces (the ground forces, air force, navy, and land-based strategic

missile forces) as well as seven military districts (MD). The branches (with the exception of the Second Artillery) are also supervised by the General Staff and three PLA departments. The centralization of command and control is extremely high.

The PLA consists of the units recruited on the basis of conscription, contract service units and the reserve of volunteer corps (approximately 36.5 mn people).

China's military spending increases by 14-18% annually reaching 91 bn dollars in 2011. Foreign experts consider this figure to be significantly understated (up to by three times) as it does not include costs of imported weapons, revenues from exports, expenses of nuclear arms, subsidies for the military-industrial complex, and appropriations for research and development.

In respect of numbers, the cornerstone of the PLA is its ground forces. Khramchikhin suggests that one can make a judgment concerning whom China considers an opponent based on its army deployment patterns. The most powerful are Shenyang and Beijing military districts bordering Russia. The other military districts are Lanzhou MD, Nanking MD, Jinan MD (which serves as a strategic reserve for the four abovementioned districts), Chengdu MD, and Guangzhou MD.

The Beijing and Jinan districts are 'testing grounds for new ways of using ground forces and combat hardware'. Ground forces units practice deep offensive operations (up to 1500 km) which, according to the expert, can only be used in the northern direction.

Another 'enhanced' military district is Nanking MD which 'is oriented toward occupying Taiwan': all amphibious divisions and a single special-purpose amphibious brigade totaling 25 thousand people are deployed here.

The expert believes, that 'the Chinese command does not anticipate waging any large-scale offensive actions in the southern direction' as the forces in the Chengdu and Guangzhou MDs basically consist of motorized infantry divisions.

As for advanced weapons and military hardware, China is currently developing a new tank that 'can be armed with two rapid-fire 6-barrel guns for air target kills including antitank guided missile systems'.

Among recently deployed Chinese military hardware that has no obvious analogs either in Russia or in the West are ZBD-05 armored personnel carrier (APC), WZ502G APC with significantly

reinforced armor, WS-2 multiply-launch rocket system which will have a surveillance drone. The expert claims that the Russian air defence systems will not be able either to detect or intercept WS-2 which has firing range sufficient to 'strike Russian troops and air bases in Chita region as well as strategic enterprises of Komsomolsk-on-Amur'.

The Chinese air force has also been reequipped with newer aircraft: the number of heavy fighters Su-27/J-11 (now about 300 units) will be increased to a minimum of 500 units, and J-10 lightweight fighters (now over 220 units) – to 1000 units. During training Chinese pilots 'simulate the actions of the Russian and Taiwanese air forces, presumably, China's principal potential opponents'.

The shortage of strike aircraft is partially offset by a considerable Chinese arsenal of tactical and short-range missiles, as well as the development of strike drones (WJ-600, CH-3, Ilong, etc.) the number of which can exceed even the number of US drones.

In addition Beijing has signed a contract with Moscow to buy 100 Su-30 and is preparing to produce their unlicensed copies – J-16. Also JH-7 bomber is on its way to the air force and naval aviation (approximately 200 units available with the possible increase up to 300-400 units).

Given the fact that the munition allowance for S-300 PMU-2 SAMS bought from Russia is rather small, 'the Chinese-produced HQ-9 and HQ-16 SAMS will determine the real capabilities of the PLA's air defence'.

The goals set by the leadership of the country define the development of the PRC's navy, among them:

- to be able to ensure the occupation of Taiwan;
- to secure the uninterrupted delivery of raw materials (primarily oil) from Africa and the Persian Gulf;
- to protect the oil production on the shelves of the seas in the China's exclusive economic zone;
- to defend the sea borders of the state.

The main cause for China's concern is the US ability to strike Chinese industrial facilities in the coastal area using precision weapons. Accordingly the PRC's navy seeks to extend its line of defence as far as possible into the ocean. In order to achieve this

objective the navy has to go through three stages of development each of which must ensure favorable operating conditions for Chinese fleet within 1) 'first island chain' (from Rjukju Islands to the Philippines); 2) 'second island chain' (from the Kurils through the Mariana Islands to New Guinea); 3) the world ocean.

The Chinese military fleet includes 12 Project 636and 877 submarines and 23 Project 039 and 041 submarines; 13 destroyers (Project 956, 052 and 051); over 10 Project 054 frigates.

Project 093 nuclear submarines are intended to replace Project 091 submarines, while Project 041 (039A/B) submarines are gradually replacing the earlier series of Project 033 and 035 submarines. In January 2012 the forth Project 071 amphibious transport dock was put into service. As for 'mosquito' fleet, China is building 60-80 Project 022 missile boats, the most powerful ones in the world.

China occupies the first place in the world as far as the total number of diesel submarines and general-purpose nuclear submarines. 'In the long run, as the number of nuclear submarines increases and bases are established abroad, the PLA's submarine fleet will become a geopolitical factor in the Pacific and Indian Oceans'.

Beijing has major plans for developing aircraft carriers employing the technologies of the Varyag aircraft carrier which will most probably be used for training and experimental purposes. Khramchikhin believes that China will build not less than 3-4, possibly 5-6, aircraft carriers which 'inherently implies the necessity of building not less than 20 more destroyers of Project 052 or any new project'.

According to the expert, aircraft carriers could be used to occupy Taiwan that 'would lead to a dramatic increase in China's might as well as the establishment of control over sea routes in the western part of the Pacific Ocean and in Southeast Asia'. To prove the point he cited the rapid increase in the share of ocean vessels in the Chinese fleet due to a decrease in the number of ships and boats intended for operations near its coast.

As for the ground forces Khramchikhin predicts the formation of 'a fairly small (by Chinese standards), modern, high-tech army that is capable of successfully opposing the armed forces of the USA, Russia, Japan, and India'. Such army will adopt American concepts of military posture, for instance, the concepts of

netcentric warfare and asymmetric warfare (cyber attacks, information operations, anti-satellite weapons, special forces).

China will use these concepts to implement its strategy of 'local wars' which does not rule out Beijing's initiative in launching local military conflicts. At the same time the concept of 'people's war' created by Mao Zedong has not been discarded. It has been updated and now envisions 'grinding down an opponent to the greatest extent possible in border fights and making a rapid transition to a strategic offensive'. The latter and a number of other concepts (such as 'a limited nuclear counter-strike for purposes of self-defence') form an 'active defence' doctrine: 'readiness to wage offensive operations, since China itself determines what nation is treating it hostilely and what comprises this hostility'.

The expert pays particular attention to the concept of 'strategic borders and vital space' which, to his belief, has no analogs in other countries as it explicitly 'asserts a right to military aggression due to a lack of resources and land area'.

Khramchikhin concludes that China plans its military posture more effectively than the Soviet Union did, by deliberately limiting the defence budget growth and balancing it with the level of national economic development. It allows Beijing if the need arises to lift the self-restriction and rapidly build up its military might.

Academician Alexei Arbatov, head of the IMEMO Centre for International Security, reviews the strategic context of the relations between the US, Russia, and China; Beijing's approach to nuclear weapons, the US BMD, long-range conventional weapons; China's possible engagement in the process of nuclear arms control.

The expert distinguishes between two levels of security: regional security in the Asia-Pacific depends on the bilateral US-China relations, while at the strategic level the interaction between three powers – China, the USA and Russia – will be crucial. The balance of interests in this 'triangle' is not always obvious. There are no alliances within this triangle; on the contrary, each country tries to prevent the other two from teaming up.

The USA and Russia have a common position on the 'no-first-use' policy, use of nuclear weapons against a NNWS, a comprehensive nuclear disarmament treaty, nuclear security guarantees to the allies, cooperation on BMD, transparency of the

Chinese military nuclear program and Beijing's participation in arms control.

Russia and China agree on the necessity of limiting BMD systems, high-precision long-range conventional weapons and space weapons, as well as unacceptability to move Russian tactical nuclear weapons to the eastern part of the country.

The USA and China share the same approach towards the necessity of a new START treaty, limitation of US and Russian tactical nuclear weapons, and reduction of US and Russian nuclear weapons in storages.

China's policy in the nuclear sphere is quite contradictory. On the one hand, Beijing has officially committed not to use its nuclear weapons first, calls for concluding a universal agreement not to use nuclear weapons first and against NNWSs, does not seek a nuclear missile parity or deterrence based on mutual assured destruction. It also declares that it will maintain its nuclear forces at a minimum level 'that national security demands'. On the other hand, China does not provide any official information about its nuclear forces and programs of their development.

In the context of the rapid growth of the Chinese military budget and Beijing's ambitious foreign and military policies, the above declarations only add to the concerns of the international community. Arbatov regards it as an evidence of revival of China's thousand-year-old traditions of military deception advocated for by Sun Tzu. To prove the point the expert quotes leading Russian pundits who assess the size of the Chinese nuclear arsenal as being as large as 800-900 warheads intended for deployment, as well as the information about enormous tunnels built by the Second Artillery which can be used to secretly store nuclear weapons and delivery systems. Arbatov assumes that the true reasons behind the lack of transparency on the part of China are not 'weakness' or 'small numbers' but rather the abundance of the PRC's nuclear stockpiles.

The expert agrees with the popular interpretation of the Chinese nuclear doctrine as a propaganda tool. 'No-first-use' policy generally means that the state adopted it relies on the power of a retaliatory strike, however external observers have no evidence that China's strategic nuclear forces or its early warning systems are ready for such scenario. 'Perhaps a preemptive strike is in fact planned in a situation when the country's leaders decide that war is

inevitable. It is also not ruled out that a retaliatory strike is a working concept of Chinese operational planning'.

Arbatov explains this dilemma with the argument that China ascribes different roles to its military doctrine and its strategic deterrence. The former is important mostly as a foreign policy instrument, while deterrence is defined by the available nuclear forces. That is why their modernization and build-up is of concern for both regional states and leading global powers. For Russia it means 'blocking its advantages in the area of medium- and short-range nuclear weapons which presently offset the superiority of China's conventional armed forces and weapons near Siberia and the Russian Far East'.

For the USA, China's nuclear build-up is implicitly creating an incentive for developing a global BMD. 'Washington is apparently trying to use its BMD to complicate and fend off insofar as possible the prospect of China acquiring the potential of nuclear deterrence based on the proven ability to deliver a retaliatory strike'. As a counterbalance Beijing develops penetration aids, anti-satellite weapons, and its own BMD.

China is even more concerned about possible BMD cooperation between Moscow and Washington. Such cooperation would threaten to deteriorate the Russian-Chinese relations and, according to Arbatov, 'it was surreptitiously one of the reasons that the negotiations on BMD between the USA and Russia failed'.

Another issue of enormous concern to China is the development of US high-precision conventional weapons on strategic delivery systems, in particular the Prompt Global Strike project. Beijing fears that Washington can use these weapons to inflict massive disarming blows against Chinese precision conventional missile systems that target the US fleet, as well as against Chinese nuclear forces. The latter scenario undermines China's official nuclear doctrine which rules out the nuclear retaliation in response to a conventional attack.

As a countermeasure the PRC can maintain a large reserve of nuclear weapons and delivery systems in the underground tunnels, develop medium- and short-range conventional missiles, increase the survivability of its nuclear forces by building more efficient submarines and their deployment on the high seas.

As for Beijing's engagement in the arms control process, the expert stresses the importance of transparency. The real size of the

Chinese nuclear forces would define the role of China in the above process: if it has no more than 240-300 nuclear warheads, a political commitment not to substantially increase them would be sufficient. However if they number 800-900 warheads, then without their limitation further strategic nuclear arms reductions by the USA and Russia are impossible.

China propounds two conditions: significant reductions of the US and Russian nuclear stockpiles in order to start multilateral disarmament negotiations; and adoption of 'no-first-use' policy by Moscow and Washington as a prerequisite for greater transparency of Beijing's nuclear posture. For operational planning the last condition is useless, therefore China's goal is to 'sell' each and every element of its transparency at the highest possible price.

Hence China's engagement in the arms control regime will only be possible on a pragmatic basis. First, Beijing will not make any steps in this direction until the USA and Russia sign the next treaty on strategic nuclear forces reduction with some real and deep cuts (for instance, down to 100 warheads on each side). Second, to abandon the first nuclear strike concept and acknowledge the existence of mutual nuclear deterrence with Beijing will require Washington and Moscow to fundamentally and painfully change their military policies in general.

Arbatov assumes that the list of possible concessions the US and Russia will have to make to achieve higher transparency and nuclear arms limitation on the part of China will include:

- a US commitment not to enhance its BMD system in the Pacific region;
- China's participation in the US-Russian collaboration on BMD;
- the negotiations on the next US-Russian START treaty;
- further limitation of US and Russia NSNWs.

Arbatov believes that the trilateral negotiations are only possible on the BMD issue, with trilateral agreements on total ceilings for strategic nuclear weapons and medium- and short-range missiles coming to pass further down the line. Until that time the most likely framework for negotiations would be a bilateral dialogue between the USA and China with START talks between the USA and Russia, as well as regular strategic consultations between Russia and China.

## 7. PROSPECTS OF ENGAGING INDIA AND PAKISTAN IN NUCLEAR ARMS LIMITATIONS. REVIEW OF THE CONFERENCE AT IMEMO

Dmitry CHIZHOV

On October 18, 2012 the Institute of World Economy and International Relations of the Russian Academy of Sciences (IMEMO RAS) hosted an international conference 'Prospects of Engaging India and Pakistan in Nuclear Arms Limitations' which was a part of the 'Russia and the Deep Nuclear Disarmament' program jointly implemented by IMEMO RAS and the 'Nuclear Threat Initiative, Inc'.

Academician Alexander Dynkin, Director of IMEMO RAS, in his introduction emphasized that after the two decades of bilateral US-Russian deep nuclear arms reductions the time came to raise the issue of engaging other nuclear weapons states (NWSs) in the process.

Leading Russian and Indian experts presented their views at the conference. It was attended by representatives of the Ministry of Foreign Affairs and Ministry of Defence of the Russian Federation, as well as various diplomatic missions in Moscow.

As the conference was held under the Chatham House Rule, the following summary does not specify the identity of the speakers.

The analysis showed that the nine existing nuclear armed states were engaged in different military and strategic relations.

The Soviet/Russian-American nuclear deterrence with comparable strategic potentials of the two parties became the basis for both mutual deterrence and nuclear arms limitations and reductions. However, such a model is rather an exception in the current balance of power relationships.

The relations between Pakistan and India are similar to the USSR–USA relations at the beginning of the Cold War. The tense relations generate considerable political obstacles for a dialogue on nuclear weapons reduction and limitation. Another important issue is the presence of the Chinese factor in the Indian-Pakistani strategic relations.

The conference focused on the essential elements of strategic relations between India and Pakistan, including prospects for arms control, confidence-building measures, and impact of the third parties.

A prominent Indian expert outlined his view on the current state of strategic relations between India and Pakistan. The speaker examined differences in nuclear policies of two countries, and indicated internal and external factors that contributed to persistence of bilateral tensions and created a risk of a nuclear conflict.

Pakistan has no official nuclear doctrine and its willingness to use nuclear weapons first, if India crossed a 'red line' (i.e. undertook some political, military, or economic actions unacceptable for Pakistan) greatly disturbs New Delhi.

A high level of terrorist threat, risk of attack against nuclear weapons storage sites and overall low level of political control over nuclear weapons in Pakistan also affect the bilateral relations.

It was underlined that Pakistan's nuclear policy and severe internal instability hinder the bilateral arms reduction and disarmament negotiations.

Negotiations between India and Pakistan on nuclear arms reduction seem to be meaningless without accounting for the role of the Chinese factor. (Pakistan and China maintain a high level of military-technical cooperation.) However, the divergence of geopolitical interests within this 'strategic triangle' complicates transition to the trilateral negotiations.

The arms control aspect is not conspicuous in the Indian-Pakistani strategic relationship since India is ready to discuss nuclear disarmament issues only in a multilateral format within the UN framework and with the participation of all NWS.

India supports the proposal to start negotiations on a fissile material cut-off treaty (FMCT) at the Conference on Disarmament in Geneva. India, like Pakistan, continues to observe a unilateral moratorium on nuclear testing.

Russian experts examined the strategic relations between India and Pakistan, the nature of the 'minimum nuclear deterrence' concept, and political role of nuclear weapons in both countries. They drew attention to the contradictions in the concept of 'minimum deterrence' practiced by these states.

Some participants argued that for India its nuclear status meant being a power with not only regional but also global interests, i.e. a status that promoted the upholding of these interests in bilateral and multilateral forums, especially in the UN, and in effect brought India to the level of the five permanent members of the Security Council.

It was noted that the military significance of India's nuclear status was related to deterrence of its key strategic opponent, which, according to the prevalent expert opinion, was China. All major Indian political parties have developed national consensus concerning the nuclear status of the country.

For Pakistan, its nuclear status means leadership and authority both in the Muslim world and in a broader scale, as Pakistan is the only Islamic state possessing nuclear weapons. Pakistan seeks the role of political counterbalance to India in the South Asian Association for Regional Cooperation (SAARC). Pakistan has also developed strong domestic consensus of various political forces on the nuclear status as a means of strengthening national security and deterring neighbouring India.

Russian experts proposed a number of measures to enhance nuclear security in South Asia. India and Pakistan should provide greater transparency of their nuclear forces (in relation to their structure and deployment). They could develop the dialogue on confidence-building measures extending to nuclear and conventional weapons. To enhance the overall stability both states could accept the no-first-use principle. Among possible confidence-building measures the speakers mentioned an obligation not to deploy nuclear weapons in the disputed areas or near the Indo-Pakistani border, to maintain medium- and long-range nuclear missiles at reduced alert, as well as to exchange the relevant information.

The need to develop common approaches not only to security but to resolution of major political and economic issues was emphasized. The role of the third parties in promoting the

nuclear arms reduction process in the South Asian region was also highlighted.

The experts raised a number of essential issues that affect the strategic relationship between India and Pakistan and the prospects for their participation in nuclear weapons reduction and nuclear disarmament.

Some of them considered it premature to involve India and Pakistan in disarmament process as these countries were building up their nuclear arsenals and were not ready for this step.

The conference referred to the chance of bringing India into the nuclear arms reduction process lost by the USA and the Nuclear Suppliers Group. (At the time when India could have agreed to substantially increase transparency of its nuclear weapons program and even to limit it.)

The conference paid particular attention to the ways of improving mutual trust, exchanging and verifying information between the countries.

Some participants expressed concerns that in the process of data exchange on the India's nuclear infrastructure and strategic nuclear forces there might be a possibility of information leaking to China or a terrorist group.

Russian experts suggested that detailed information should not be provided for such exchange in order to prevent a terrorist attack on nuclear weapons storage sites.

Most experts expressed their confidence in the sufficiency of the security level of the Indian nuclear infrastructure, while pointing out that in the future, terrorist attacks against such targets might pose a real danger in case terrorist organizations underwent qualitative transformation.

Information exchange on medium- and short-range delivery systems was proposed as one of the areas to enhance transparency in the Indian–Pakistan relations.

The 1987 INF Treaty between the USSR and USA was mentioned as a model agreement. The limitations could apply to ground-launched ballistic and cruise missiles with ranges of 500 to 5500 km which constitute a majority of the Indian and Pakistani arsenals.

The conference focused on various destabilizing factors in the strategic relations between India and Pakistan.

Domestic instability in Pakistan is one of such factors. The change of political leadership has affected dramatically the political situation in the country. The Pakistani military continue to play the leading role in the nuclear weapons development and to restrain political control over the nuclear arsenal.

The experts also expressed concerns that in 5 to 10 years the change of generation could lead to ideological alteration within the Pakistani military. If extremist ideas take root in the military it may increase the risk of strategic information on nuclear infrastructure or even nuclear materials being handed over to terrorists.

According to the experts, if terrorists gain access to nuclear weapons or nuclear materials, an act of nuclear terrorism may take place within or beyond the South Asian region.

Thus, terrorism has a major effect on the strategic relation between India and Pakistan. It was generally agreed that terrorist activity (primarily in Pakistan) exerted negative influence on the regional strategic stability.

An Indian expert argued that terrorism played the key role in the ‘erosion’ of nuclear deterrence in the region.

Overall, the conference revealed significant differences between the parties when it came to the approaches or problem assessment of nuclear weapons reduction. The clear example was the discussion of the framework of possible negotiations. Experts demonstrated a large gap of opinions on the timetable and terms of India and Pakistan engagement in the nuclear disarmament process.

The conference has come to the conclusion that the current difficult strategic relations between India and Pakistan seriously impede the involvement of these countries in the international nuclear arms reduction process.

## 8. CONVENTIONAL ARMS CONTROL IN EUROPE: IS THERE A WAY OUT OF THE STALEMATE?

Andrei ZAGORSKI

In December 2007, the Russian Federation suspended the implementation of its obligations under the 1990 Treaty on Conventional Armed Forces in Europe (CFE). Russia considered itself no longer bound by numerical limits established by the treaty. It stopped providing information on its armed forces and receiving on-site inspections.

It was in fact a withdrawal from, rather than a suspension of the CFE treaty since Russia was no longer prepared to consider returning into the original treaty regime of 1990. At the same time it pushed, as it did before, for the ratification by NATO members and subsequent entry into force of the 1999 Agreement on the Adaptation of the Treaty on Conventional Armed Forces in Europe (the Adapted CFE or the ACFE). Moscow also articulated a series of demands to further adjust the ACFE regime by toughening its provisions, as they would apply to NATO member states whilst simultaneously lifting or easing some of its restrictions on Russia[177].

Attempts at revitalizing the CFE-based conventional arms control regime in Europe were undertaken repeatedly since 2008 but failed.

[177] On the evolution of the CFE, its implementation and controversies preceding Russia's withdrawal from the 1990 Treaty see Zagorski, A., 'The crisis of conventional arms control in Europe – the fate of the Treaty on Conventional Armed Forces' in Igor Ivanov (ed.), *Russia in the Global World: 2000-2011* (Aspekt-Press: Moscow, 2012), pp. 606–620.

Multilateral consultations on ways out of the crisis of conventional arms control in Europe discontinued in May 2011 without reaching an agreement and never resumed thereafter. Consultations and informal discussions of the issue continued bilaterally as well as among experts although no fresh ideas were put forward or expected during the electoral campaigns in Russia and the United States in 2011 and 2012.

In November 2011, NATO member states announced that they would stop carrying out certain obligations under the 1990 CFE Treaty with regard to Russia. At the same time, they expressed readiness to resume full treaty implementation, should Russia resume implementation of its Treaty obligations, and restart discussing eventual new accords[178].

Formally, the CFE was never renounced. Its provisions, however, do not apply in their major part – in relations between the Russian Federation and NATO countries. The ratification of the ACFE is no longer on the agenda. Multilateral consultations on drawing a new conventional arms control agreement in Europe have been on hold since summer 2011, although bilateral consultations on the issue continued.

The Open Skies Treaty regime is also in crisis, first of all due to the disputes between Russia and Georgia, Turkey and Cyprus, and for other reasons.

Conventional arms control in Europe has now become one of the most controversial issues within the context of the contemporary European security debate.

## Attempts to revitalize the CFE regime

Since 2008, the parties to the CFE have undertaken two attempts at revitalizing and modernizing the European conventional arms control regime.

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[178] Nuland, V., 'Implementation of the Treaty on Conventional Armed Forces in Europe. Press Statement', 22 Nov. 2011, <http://www.state.gov/r/pa/prs/ps/2011/11/177630.htm (8.12.2011)>; 'Final Statement. Meeting of the North Atlantic Council at the level of Foreign Ministers held at NATO Headquarters, Brussels, on 7 Dec. 2011', <http://www.nato.int/cps/en/natolive/official_texts_81943.htm?selectedLocale=en>.

In 2008, NATO countries suggested a way out on the basis of a Parallel Actions approach, or of a 'package deal'. The proposal aimed at agreeing on a sequence of parallel steps, which would allow ratifying the ACFE, a goal pursued by Moscow, whilst at the same time ensuring progress in implementing Russia's 1999 'Istanbul commitments' by which it obliged itself to withdraw troops from Moldova and Georgia. This implied in particular the resumption of the withdrawal of Russian munitions from Transdniestria, suspended in 2004, and the settlement of the status of the Russian military base in Gudauta, Abkhazia, with Georgia.

Russia accepted this approach and showed readiness to identify a way out on the basis of a 'package deal', provided its demands as regards further revision of the ACFE would be satisfied. Talks to this effect[179] were conducted by the US on behalf of NATO. Many details of the anticipated parallel actions remained open though whilst the talks were not properly concluded. They were significantly complicated by the Russian–Georgian war in August 2008, as well as by the electoral campaign in the US and the subsequent formation of the new US administration in 2009.

In June 2010, NATO member states submitted a new proposal aiming at the revitalization of conventional arms control in Europe. They suggested a principally new approach to solving the problem.

Firstly, the Alliance ***abandoned the goal of ratifying the ACFE*** and, respectively, the progress achieved in 2008 by discussing 'parallel actions'. Instead, it suggested to draft a '21st Century Framework for Strengthening Conventional Arms Control and Transparency in Europe', which essentially would include core element of a mandate to ***negotiate a new conventional arms control agreement*** in Europe which would build upon the ACFE regime.

Secondly, it suggested, expanding the group of participants to the Vienna- based monthly consultations, which at that time were attended by 36 countries. The 30 states parties to the CFE were joined by six new members of NATO, which did not participate in the CFE (the Baltic States, Albania, Croatia and Slovenia).

Russia accepted this approach and agreed to discuss the mandate for new arms control negotiations instead of seeking

[179] See Mazur, A., 'Russia and European arms control' in Vitalii Zhurkin (ed.), *Security of Europe* (Ves' Mir: Moscow, 2011), pp. 283–303.

ACFE ratification. Despite a substantial narrowing of the differences in the positions, however, several rounds of those consultations did not result in an agreement. By May 2011, it was obvious that the parties could not agree in particular on two issues, which served for most significant disagreement.

Firstly, NATO countries and Georgia insisted on the reconfirmation of the principle of the host nation consent with the deployment of foreign troops on its territory 'within the internationally recognized borders'. This formulation became an insurmountable obstacle on the way of negotiating a status neutral formula, which would allow the parties to maintain their diametrically opposing legal positions concerning the status of Russian troops in Abkhazia and South Ossetia.

The Russian Federation, secondly, was not prepared to accept the demand of the NATO countries to resume information exchange and to accept inspections as a confidence-building measure as long as the negotiation on a new treaty are taking place.

Other divergences were not overcome during the consultations either, including the differences concerning whether any forthcoming agreement should be legally or politically binding[180].

After the summer of 2011 the consultations of 36 countries did not reconvene.

The fourth Review Conference of the States Parties to the CFE, held in Vienna on 29 September 2011, revealed the persistence of divergences preventing any movement ahead, and failed to achieve a consensual final document[181].

Although multilateral consultations on the mandate of new negotiations did not resume thereafter, the issue remained subject of bilateral discussions in search of new ideas that would allow revitalizing conventional arms control in Europe. No breakthrough was achieved, however. Elections in the Russian Federation

[180] See in particular Arx, P. von, 'Possible Future of Conventional Arms Control and Confidence- and Security-Building Regimes in Europe' in *OSCE Focus Conference Proceedings*, 14-15 Oct. 2011, (DCAF: Geneva, 2012), pp. 37–39.

[181] Statement by the delegation of Moldova in Organization for Security and Co-operation in Europe. Forum for Security Co-operation. 660th Plenary Meeting. FSC.JOUR/666, 19 Oct. 2011, Annex 1, p. 1.

followed by those in the US in 2012 have had their impact on these discussions.

**Prospects for a new agreement**

Discussions on the future of the CFE regime convened after 2008 revealed diminishing interest showed by their participants to the issue of conventional arms control in Europe. This raised the question of the availability of political will to reach a new agreement. Practically all countries, including the Russian Federation, reacted impatiently to the continuous erosion of the CFE regime at all stages of this process.

In particular, commenting on 23 November 2011 on the decision of NATO countries to stop annual information exchange on conventional forces and to terminate carrying out of certain other obligations under the CFE Treaty with regard to Russia, the Russian Ministry of Foreign Affairs called not to dramatize this development. It pointed out that the continuous information exchange and verification under the OSCE Vienna Document on Confidence- and Security-Building Measures, as well as the implementation of other agreements within the OSCE on global exchange of military information, or of the Open Skies Treaty provided for the 'necessary and sufficient transparency' of military activities in the Euro-Atlantic area[182].

Although the erosion of the CFE regime was not met with enthusiasm among the parties to the treaty, the majority of them saw the primary task not in developing, as soon as possible, of a new agreement but, rather, in preventing further erosion of the existing conventional arms control regimes in Europe. This attitude implied that they preferred maintaining status quo over new negotiations the success of which could not be taken for granted particularly against the background of diminishing interest of defense establishments

[182] Comments of the Information and Press Department of the Ministry of Foreign Affairs of the Russian Federation with regard to the decision of a number of NATO countries concerning the CFR (in Russian), 23 Nov. 2011, <http://www.mid.ru/bdomp/ns-dvbr.nsf/6786f16f9aa1fc72432569ea0036120e/c32577ca00173dc0442579510 059a75e!OpenDocument>.

first of all of Russia and the US in entering new commitments which would reduce military options available to them.

This caveat is important against the background of the more recent conversations on the future of the CFE, which allowed if not to elaborate the contours of an eventual new agreement but at least to shape the emerging understanding in which direction contemporary conventional arms control regimes in Europe could evolve, should the relevant parties reveal the necessary political will.

Most experts agree that consultations on conventional arms control in Europe will resume after the formation of the new US administration and its policy review in the relevant areas is completed later in 2013 or early in 2014. The main questions to be addressed in that regard in the near future are those of who shall talk with whom about what?

Depending of the responses given to those questions another issue, which needs to be addressed, is on which platform further multilateral consultations and negotiations should be conducted.

Russian government officials state openly that, from their perspective, the chances to revitalize the CFE regime are negligible whilst any attempts to find a solution on the basis of a modernization of the adapted CFE Treaty are doomed to fail[183]. Although officials of most states parties to the CFE are ambiguous in their statements thus keeping the door open to return into the CFE regime, its de facto erosion makes their hands free to consider any option of addressing the problem of the future pursuit of conventional arms control in Europe. While considering available options, they no longer need to reduce them to those, which are compatible with the basic provisions and parameters of the CFE and can think out of the box while seeking for creative solutions to the issues on the agenda.

[183] Antonov, A., in *Workshop conference materials 'Euro-Atlantic Security Community: Myth or Reality*?' 23 Mar. 2012 (RIAC: Moscow, 2012), p. 60. Also available at <http://russiancouncil.ru/en/inner/?id_4=801#top>.

**Parameters of a possible new agreement**

Over the recent years, the dialogue on conventional arms control in Europe has helped a rather wide experts' consensus to mature as regards the directions the work on a new agreement or arrangement may take, should the relevant states reveal sufficient political will[184].

Should that work encompass the elaboration of a full-scale new arms control agreement providing for certain numerical limitations, information exchange and measures to verify the implementation of those provisions, the question of eventual parties to such an agreement remains open. Would this be 30 states parties to the CFE or 36 countries, which have participated in the 2010-2011 consultations? Or it would comprise a distinct group of countries?

The final answer to this question is anything but plausible. However, one option, that of narrowing the circle of parties to the arms control regime by reaching an agreement excluding Azerbaijan, Georgia and Moldova – the countries which maintained the least flexible positions, – that was considered during the consultations of 36 countries in 2010 and 2011, was rejected by the majority of the participants[185].

Any full-scale conventional arms control agreement is highly unlikely to be Europe-wide or to be negotiated within the OSCE. Its core element, at the same time, should be an arrangement to be reached between Russia and NATO countries that could include other CFE parties yet subject to be agreed upon, ***extending arms control measures to new weapons categories***. The five heavy weapons categories that have been covered by the CFE – main battle tanks, armored combat vehicles, artillery, combat aircraft and attack helicopters – are no longer perceived as subject of particular concern.

The holdings of those arms have been significantly reduced as a result of the implementation of the CFE. Indeed, reductions

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[184] See, inter alia, Zellner, W., Boyer, Y., Facon, I., Grand, C., Kühn, U., Kulesa, Ł., Zagorski, A., *Towards a Euro-Atlantic and Eurasian Security Community: From Vision to Reality* (Hamburg, Paris, Warsaw, Moscow, 2012), pp. 17–18.

[185] Arx, P. von, Possible 'Future of Conventional Arms Control and Confidence- and Security-Building Regimes in Europe', p. 39.

even exceeded significantly the relevant provisions of the treaty. Those holdings are now far below the numerical limits established not only by the original 1990 CFE Treaty but, also, by the 1999 adapted CFE.[186] This is one of the reasons why states parties did not dramatize the erosion of the CFE regime: its objectives have been reached.

With the current holdings of arms and military equipment limited by the CFE launching of a large-scale attack in Europe is considered impossible. Neither side has the potential required for such an attack.

Currently, the discussion is moving towards extending arms control to new weapons categories taking into consideration the fundamental transformation and modernization that the armed forces of European countries are undergoing. A greater variety of armaments are considered as an eventual subject for future arms control arrangements. Their final list, however, can only be an outcome of eventual negotiations of interested parties.

The rationale of maintaining existing or introducing new ***numerical limitations*** on individual weapons categories is increasingly questioned, although a firm consensus on the issue, apparently, will take more time to mature. The need to further maintain those limits is questioned for different reasons. On the one hand, the actual holdings of most weapons categories in Europe are anyway at such a low level that further reducing them would not make sense. On the other hand, as a result of the profound transformation of modern armed forces their qualitative characteristics clearly outweigh the quantitative ones, so that the major transformation trends can hardly be captured by numerical limitations, if they can be captured at all.

Against this background, providing and increasing the level of mutual ***predictability and transparency*** of military activities is considered to represent the main purpose, which conventional arms control in Europe can serve. Increasing predictability and transparency is expected to lead towards restoring mutual confidence between states in the military area, which has been lost over the past years. In particular, when the extension of arms control measures to new weapons categories is discussed, those new

[186] The single exception is Azerbaijan which significantly exceeds CFE numerical limits.

categories are usually supposed to become subject not to limitations or reductions but, rather, to monitoring or transparency measures.

The rationale of providing for information exchange on conventional armed forces as part of any eventual arrangement is not disputed. At the same time, there is no consensus as regards appropriate verification of the information provided. Whilst in Russia various forms of on-site inspections are seen today merely as a legacy of the Cold War, NATO countries precede on the basis of understanding that exchanging information without adequate verification and inspection does not make sense. It appears, however, that the proper discussion of this question has not yet opened and that the intrusiveness of the relevant verification measures may be negotiable once every party has a clear idea of the main parameters of an eventual agreement.

While actual holdings of the weapons and military equipment limited by the CFE remain far below the established numerical limits, the issue of appropriate measures to compensate for the loss in transparency of military activities – the loss resulting from the termination of the CFE information exchange and inspections – is paid increasing attention. ***Substantial modernization of the confidence- and security building measures under the OSCE Vienna Document*** is considered a possible method of such compensation thus implying that the European arms control negotiations may be increasingly refocused on the modernization of the Vienna Document instead of developing of a new agreement by a limited number of parties.

As long as consultations on the revitalization of the CFE regime were conducted, practically all parties were reluctant to transfer the discussion of the relevant issues into the OSCE. However, in 2010–2011 first practical steps were made towards the modernization of the Vienna Document. In 2010, the procedure for the modernization was agreed upon. This agreement was followed by a series of decisions to this effect[187].

Nevertheless, as of this writing, the progress of the modernization of the Vienna Document remained reduced to

[187] See Arx, P. von, Possible 'Future of Conventional Arms Control and Confidence- and Security-Building Regimes in Europe', pp. 43–46; Zagorski, A., 'From Astana to Vilnius' in *OSCE Focus Conference Proceedings,* 14-15 Oct. 2011 (DCAF: Geneva, 2012), pp. 78–81.

'technical' as opposed to substantial measures. After 2011, even this work slowed down. In 2012, only one decision was adopted within the OSCE according to the formula 'Vienna Document plus'.[188]This decision was also merely of 'technical' nature.

It was primarily Russia, which revealed hesitations in this regard referring to the sufficiency of the existing instruments for ensuring the necessary level of mutual transparency. Nevertheless, both Russia and western states have tabled proposals in Vienna, which aim at substantial and not only 'technical' modernization of the relevant provisions of the Vienna Document. These sets of proposals are very different, but the very fact of their submission – and the Russian proposals have a long history[189] – proves that both Moscow and the West are interested in new measures to be agreed upon.

Proper negotiation of any substantial modernization of the Vienna Document has yet to begin. It is difficult to predict its outcome. The very distinct proposals may either serve as a basis for a reasonable compromise or block the achievement of a new agreement, as it has happened in 1999 when two different sets of proposals annihilated each other and the then revision of the Vienna Document was reduced to symbolic changes.

It is obvious, however, that solutions to various problems resulting from the erosion of the CFE regime will be easier to achieve and more likely within the OSCE framework, not least through the modernization of the Vienna Document, than by means of negotiating a new full-scale conventional arms control agreement in Europe.

[188] Document FSC.DEC/9/12. Vienna Document plus Decision No 9/12 on prior notification of major military activities.

[189] See Mazur, A., 'Russia and European arms control', pp. 326–368.

# 9. MILITARY POSTURE OF POST-SOVIET CENTRAL ASIAN STATES AND REGIONAL SECURITY CHALLENGES

Stanislaw IVANOV

The status of armed forces and prospects of military and military-technical cooperation with post-Soviet states of Central Asia (CA) have recently become an increasingly popular subject of academic analysis and focus of media attention for at least two reasons.

First, today post-Soviet CA is a tangle of national, ethno-religious, territorial and other controversies. It is, figuratively speaking, an 'underbelly' of far from stable Afghanistan. The region acquires special importance due to the upcoming withdrawal of the US troops and international coalition forces from Afghanistan in 2014. One has to consider a possibility of increased terrorist, extremist and drug threats spread from the territory of the country.

The Central Asian states will find themselves at the forefront of the fight against international terrorism, radical Islamist groups, illegal migration and drug trafficking from Afghanistan.

Political elites in a number of Central Asian countries develop a natural desire to enhance their armed forces and be ready to defend their states against both external aggression and potentially violent anti-government groups.

Second, Central Asian states face the following dilemma: whether to preserve their traditional contacts in the field of military-technical cooperation (MTC) with Russia or to develop military and military-technical cooperation with Western and other foreign countries.

At present, Russia is clearly prevalent in military and military-technical cooperation of Central Asian states. Besides, these countries are getting integrated into international organizations (CIS, CSTO, SCO, EurAsEC), which play an increasingly important role in maintaining regional stability. At that they do not shy away from participating in a number of NATO programs. Central Asian countries tend to diversify their military-technical cooperation with other foreign partners.

The collapse of the USSR in the early 1990s brought about the creation of five new independent states in Central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Tajikistan, and Kyrgyzstan). Virtually all Soviet military equipment and weapons happened to be on the territory of these countries at that time, with the exception of nuclear weapons and strategic missile systems, were nationalized and became the technical basis for national armed forces.

It should be noted that the region ended up with by far excessive amount of weapons (from the Central Asian Military District, groups of Soviet troops withdrawn from Eastern Europe and Afghanistan, etc.). While at the early stage of claiming their rights for a share of Soviet military equipment leaders of the new states acted on 'the more the better' principle, a few years later they faced a problem of disposing stockpiles that largely exceeded the needs of the new armies. Moreover as it turned out the cost of securing and maintaining huge weapon arsenals laid an exorbitant burden on the budgets of the former Soviet republics, while some of the military equipment began to pose a direct threat to the population of local communities.

For instance, Turkmenistan discovered a leak in the tank cars with toxic rocket fuel; there were fires and accidental explosions at ammunition depots that had stored weapons since the World War II. In such circumstances leaders of Central Asian countries had to take an inventory of military equipment and with the assistance of former Soviet military as well as foreign, mainly Russian, experts to put those 'heaps' of weapons and ammunition' in relative order.

The procedure varied from country to country but the following principles and approaches were common:

- depending on the size and structure, national armed forces were provided with so called training and combat weapons, personnel were trained during peacetime and mobilization reserves were unfolded during exercises or combat operations;
- some military equipment intended as spare parts for replacing and repairing was sent to long-term storage facilities;
- excess weapons and military equipment were transferred to other countries;
- weapons and ammunition that could not be used or exported were disposed using countries' own resources or with the help of foreign companies.

Later on when the Soviet weapons and equipment became obsolete and outdated, the countries encountered an acute problem of repairing and modernization or procurement of new, more advanced weapons.

In this respect Russia traditionally was given a priority as the successor of the Soviet Union. It succeeded in preserving most of the Soviet military-industrial complex (MIC). Besides, Central Asian countries actively cooperated with defense industry complexes in Kazakhstan and Uzbekistan.

Kazakhstan has the most developed military-industrial complex of all CA states. The country produces, overhauls and upgrades armored vehicles and ships, as well as manufactures various types of weapons and ammunition. In addition, it has opened a joint venture with Russia to produce communication equipment. The short-term plans of this venture include production of drones, electro-optical and radar systems, new models of planes and helicopters.

Transfer of advanced technology is one of the main growth areas. Due to the state defense procurement the production output increases annually. There are plans for building a plant and developing technology for production of ammunition, automated means of command and control, boats, ships and vessels (up to 500 tones) of various types of military and dual use, as well as for dockside maintenance of boats and ships in the Caspian Sea, fire and rescue equipment, as well as production of radar systems and modernization of existing complexes.

Most enterprises of the Soviet MIC located in Kazakhstan focused on naval production. It is still predominant in the total

Kazakh military exports. In addition, the country exports several dozen aeronautical products, parts and assemblies for aircraft construction and repair enterprises of the CIS (in Russia, Ukraine, Belarus and Uzbekistan).

Central Asian countries still seek to maintain relations with the Russian Federation in the field of military-technical cooperation. In this regard, Russia preserves preferential prices for spare parts, fuel, ammunition and new weapons for its CIS and CSTO partners, and helps them to prepare national military personnel, benefiting from the lack of a language barrier.

At the same time, as mentioned above, the Central Asian states tend to gradually diversify their military and military-technical cooperation by expanding the scope of partnerships abroad and benefiting from offers on the part of Western countries, particularly in recent times when the dates for withdrawal of the international coalition from Afghanistan have been specified.

Washington does not conceal its interest in keeping the military base in Kyrgyzstan (Manas) and creating a few more in other countries of Central Asia, particularly in Uzbekistan and Tajikistan. The international coalition in Afghanistan discusses the possibility of handing some weapons and military equipment over to CA countries, for instance transferring to Uzbekistan and Tajikistan a large number of devices, systems and channels of virtual intelligence, including unmanned aerial vehicles, digital radio sets, individual equipment with GPS, armored cars, armored vehicles, air defense systems, tanks, artillery rocket systems with topographic positioning systems, as well as small arms equipped with night-vision scopes.

The Pentagon seems to have come to the conclusion that these high-tech weapons should not be passed to the Afghan army due to the difficulties experienced by Afghans in mastering them and higher chances that these weapons would end up in the hands of the Taliban militant movement.

The parties concerned also consider the Pentagon proposals to create a long-term network of training centers in Tajikistan and Uzbekistan where Central Asian armed forces could learn how to handle armaments and military equipment of the international coalition in Afghanistan.

Tajikistan already has a US-supported training center situated in Fakhrabad. Tajikistan received 300 individual equipment

kits and equipment for special operations groups, trained by American instructors. Since 1992, Washington provided a total of more than $984 million to support economic development and security in Tajikistan.

The government of Kazakhstan announced its intention to purchase 20 EC725 Super Cougar tactical transport helicopters. As reported at the producer's – the European company Eurocopter – web site, helicopters will be purchased for the needs of the Ministry of Defence. The Kazakh authorities have already been using civilian version of the helicopter for VIP transport.

The European Union and later the United States lifted restrictive sanctions imposed on Tashkent after the tragic events in Andijan, thus facilitating the stepping up of Uzbek-US MTC.

Western states' interest in strengthening their position in the country appears to have outweighed their concerns about human rights violations in Uzbekistan. Experts point out the establishment of cooperation between Tashkent and Berlin including cooperation in the military sphere. For instance, Germany helps Uzbekistan in building a national army and intends to sell a range of military equipment including Alpha Jet training aircraft from the Bundeswehr's arsenal. According to the German side, the Uzbek army is using military equipment of the former German Democratic Republic.

The United States has provided Uzbek law enforcement agencies with body armor and is also planning to supply them with US night-vision devices and navigation systems that, according to Washington, will help secure ways to deliver cargoes to Afghanistan and curb smuggling activities.

Washington will apparently have to adjust its plans for Uzbekistan. The matter is, under its new foreign policy, Uzbekistan has decided to remain neutral in international affairs, announced its non-participation in military alliances, and ruled out the presence of foreign military bases on its territory. In accordance with this decision, in 2012 Tashkent suspended its membership in the Collective Security Treaty Organization (CSTO).

Also defence manufacturers from Israel, Turkey, South Korea, China and other countries offer their military goods to Central Asian countries.

The Tajik government, which conducted combat operations against the joint opposition forces in summer and autumn of 2010,

also needs external assistance. Tajikistan has increased defence spending by 25%. It is highly likely that due to the instability of the situation in the country, the armed stand-off between the authorities and opposition will continue.

In these circumstances, Bishkek and Dushanbe appealed to Moscow for additional military assistance. Russia declared its commitment to allocate $1.1 billion for re-equipment of Kyrgyz army and about $200 million for the needs of the Tajik armed forces. Most of the weapons and military equipment are likely to be delivered from the warehouses of the Pentagon. Weapons upgrading, preparing for transportation, training of Asian military, and other indirect costs will obviously require additional funding.

The analysis of the US and NATO efforts to intensify their military and military-technical cooperation with the former Soviet states of Central Asia demonstrates that these efforts are driven not only by the upcoming withdrawal of international coalition forces from Afghanistan, but also by the US desire to promote Iran's isolation in this very important direction.

Leaders of the Central Asian states are wary of attempts to draw them into a confrontation with Iran. Moreover, they are apprehensive of US and Israeli plans to solve the Iranian nuclear issue by military means. They realize that destruction of Iranian missile and nuclear facilities and oil and gas fields may worsen the overall security situation in the region and lead to an environmental disaster there, including the one in the Caspian Sea waters.

Besides, violent regime changes in a number of Middle Eastern countries supported by the US and its NATO allies have also caused some concern in the ruling circles of post-Soviet Central Asian states: what if eventually the United States will decide to 'democratize' Central Asia according to the Western model? In fact, until recently, the West was quite explicit in labeling the region's regimes 'dictatorships', 'undemocratic', and 'anti-popular'. If Washington succeeds in a regime change in Syria and isolation of Iran, the next item on the agenda could become the Central Asian region's 'democratization'.

Keeping it in mind most leaders of the post-Soviet states are in no hurry 'to fly in the arms' of their new partners but try to build relationships on a purely pragmatic basis, primarily in the field of trade and economy. As for the military and military-technical cooperation with the West, post-Soviet Central Asian states only

purchase the high-end products that Russia cannot offer. Thus, the cooperation does not go further than limited diversification of weapons suppliers to include Western states, China and other countries.

Unfortunately, major world powers have not yet fully overcome the Cold War mindset and keep trying to compete in such sensitive areas as military and military-technical cooperation with developing countries.

The Central Asian region found itself the focus of Russian, US, Chinese and other countries' interests. The latter do not always consider possible negative effects of the excess of weapons and military equipment in a country or region on international and regional security.

There are certain rules of MTC: they are obvious to experts but policy makers do not always take them into account. Some of them are listed below:

1. Before supplying arms and military equipment to any state or regime, it is necessary to make an analysis on how stable and strong the regime is, what the short-term prospects are, how the foreign weapons can be used, who are the opponents of the state buying the weapons, if there is a possibility of a civil war outbreak, aggression against a neighboring state, regional armed conflict or spread of weapons to terrorists, extremists, pirates, and similar groups.

2. The development of military technical cooperation with foreign states must be accompanied by cooperation in other areas (political, trade and economic, scientific and technical, cultural, etc.).

3. Weapons and military equipment supplies must be backed up by robust and well-supported long-term service programs (including technical manuals in a foreign language, training, maintenance, heavy maintenance and overhaul, supply of spare parts, ammunition, training and other equipment). Any interruption in the service program turns the most advanced weapons into a heap of scrap and damages the supplier's image.

We must not forget the tragic historical experience, when Western and Soviet weapons were actively used in internal and regional conflicts. The bloodiest ones were the Arab-Israeli wars, the eight-year long Iran-Iraq war, and civil wars in Somalia,

Ethiopia, Angola, Sudan, Uganda, Afghanistan, and dozens of other countries.

In Syria, tens of thousands have been killed and over a hundred thousand wounded, about one million people have fled their homes, while cities and towns lie in ruins.

The international community must develop and adopt a reliable legal framework to regulate manufacture and export of conventional arms. The UN efforts in this area have born no practical results so far.

Central Asian countries facing the threats from Afghanistan need to enhance their armed forces but it should be done in a controlled manner.

Unreasonable and accelerated arms race and militarization of developing countries tend to affect living standards, radicalize society, divert significant resources to the military, and provoke internal and regional armed conflicts.

In such circumstances, the policy of supplying ‘guns instead of butter’ can only exacerbate public mistrust of authorities, deepen rifts within society, provoke a civil war and regional armed conflicts, as well as create conditions for the proliferation of ideas of Afghan extremist groups.

In the Central Asian countries drug trafficking becomes a major source of revenue for some officials and members of criminal gangs, while politicized Islam is firmly embedded in society and government.

Along with the measured and restricted military assistance to the Central Asian countries it would be desirable to provide them with large-scale humanitarian aid of food and other basic necessities. It is important to invest in critical infrastructure in these countries, initiate mutually beneficial energy, water and other regional projects.

Such a comprehensive approach to the establishment of long-term, mutually advantageous relations between Russia and other concerned states with the countries of Central Asia would help to further stabilize situation in the volatile region.

Russia, like many other CIS countries, has the positive record of cooperation with the Central Asian states. At the same time, Moscow is establishing partnerships with Washington and Brussels on Afghanistan to put a reliable barrier to drug trafficking, international terrorism and extremism in the region.

The positive experience of international cooperation should be further developed in the difficult conditions of the Central Asian region.

It is time to move from great power rivalry to closer coordination in order to strengthen regional and international security. Such an approach would benefit all stakeholders: the post-Soviet Central Asian countries, neighboring states, and world leading nations.

## PART III. DOCUMENTS AND REFERENCE MATERIALS

## 10. KEY DOCUMENTS OF THE RUSSIAN FEDERATION ON NATIONAL SECURITY, DEFENCE AND ARMS CONTROL (JANUARY – DECEMBER 2012)

Tamara FARNASOVA

### *LEGISLATIVE ACTS*

**Federal Law no. 69-FZ of 14 June 2012 'On Ratification of the Agreement on Cooperation of the States Members the Organization of the Collective Security Treaty in the the Field of Development, Production, Operation, Maintenance, Modernization, Life Extension and Utilization of Military Products'**

Passed by the SD on 25 May 2012; approved by the FC on 6 June 2012; signed by the President on 14 June 2012,

The agreement was signed in Moscow on 10 December 2010. It entered into force for the Russian Federation on 27 July 2012. For the text of the Agreement see: Sobranie zakonodatelstva Rossiiskoy Federatsii (SZRF) 2012, no. 42, Art. 5678.

**Federal Law no. 70-FZ of 14 June 2012 'On Ratification of the Agreement on the Formation and Functioning of Forces and Means of the Collective Security System of the Collective Security Treaty'**

Passed by the SD on 25 May 2012; approved by the FC on 6 June 2012; signed by the President on 14 June 2012.

The Agreement was signed in Moscow on 10 December 2010.

**Federal Law no. 104-FZ of 10 July 2012 'On Ratification of the Agreement between the Government of the Russian Federation and the Government of the Italian Republic on the Transit by Air Transport of Armaments, Ammunition, Military Equipment, Articles of War and Personnel across the Territory of the Russian Federation in Connection with the Participation of the Armed Forces of the Italian Republic in International Efforts to Stabilize and Rebuild the Islamic Republic of Afghanistan'**

Passed by the SD on 22 June 2012; approved by the FC on 27 June 2012; signed by the President on 10 July 2012.

The Agreement was signed in Rome on 16 February 2011.

**Federal Law no. 199-FZ of 12 November 2012 'On Ratification of the Agreement between the Government of the Russian Federation and the Government of the Kingdom of Sweden on the Transit by Air Transport of Armaments, Ammunition, Military Equipment, Articles of War and Personnel across the Territory of the Russian Federation in connection with the Participation of the Armed Forces of the Kingdom Sweden in International Efforts to Stabilize and Rebuild the Islamic Republic of Afghanistan'**

Passed by the SD on 26 October 2012; approved by the FC 31 October 2012; signed by the President on 12 November 2012.

The Agreement was signed in Kiruna on 11 October 2011.

**Federal Law no. 200-FZ of 12 November 2012 'On Ratification of the Protocol on the Placement of Military Facilities on the Territory of the States Parties of the Treaty on Collective Security'**

Passed by the SD on 19 October 2012; approved by the FC on 31 October 2012; signed by the President on 12 November 2012.

The Protocol was signed in Moscow on 20 December 2011.

**Federal law no. 216-FZ of 3 December 2012 'On the Federal Budget for 2013 and the Planning Period of 2014 and 2015'**

Passed by the SD on 23 November 2012; approved by the FC on 28 November 2012; signed by the President of the Russian Federation on 3 December 2012.

The document outlines main characteristics of the Federal Budget for the periods indicated, including the rules of the income distribution between the budgets of the budgetary system of the Russian Federation for 2013 and the planning period of 2014 and 2015. For the full text of 200-FZ see: SZRF 2012, no. 50 (part IV), Art. 6939.

## *NORMATIVE ACTS*

**Decree no. 99 of the President of the Russian Federation of 23 January 2012 'On the Withdrawal of the Military Unit of the Armed Forces of the Russian Federation, Taking Part in the UN Peacekeeping in the Republic of Sudan'**

In connection with the completion of the UN Mission in the Republic of Sudan, in accordance with UN Security Council Resolution 1997 of 11 July 2011 and the change in the international political and military situation, the above-mentioned military unit is to be withdrawn from the territory of the Republic of Sudan to the territory of the Russian Federation prior to 1 April 2012.

**Ordinance no. 160 of the Government of the Russian Federation of 22 February 2012 'On the Licensing of Space Activities'**

This document establishes a procedure for this type of activity and lists works and services, which are provided. The Federal Space Agency is defined as the main licensing authority.

**Decree no. 341 of the President of the Russian Federation of 24 March 2012 'On Approval of the Procedure of the Implementation of the Treaty of 10 December 2009 between the Russian Federation and the Republic of Belarus on the Development of Military-Technical Cooperation'**

Annexes no. 1-5 list documents which are required for the import and export of military products supplied under the above Treaty.

**Directive no. 383-r of the Government of the Russian Federation of 20 March 2012 'On Signing the Agreement between the Government of the Russian Federation, the**

**Government of Hungary and the Cabinet of Ministers of Ukraine on the Transport of Nuclear Materials between Russia and Hungary via Ukraine'**

The Directive approves the draft Agreement submitted by the State Atomic Energy Corporation 'Rosatom' and agreed with the Russian Ministry of Foreign Affairs and other federal governmental bodies.

**Decree no. 689 of the President of the Russian Federation of 6 May 2012 'On Measures to Implement UN Security Council Resolutions 2009 of 16 September 2011 and 2016 of 27 October 2011'**

In connection with the above-mentioned resolutions, which cancelled a number of restrictions and bans imposed on Libya, the Decree recommends to all legal and natural persons under the jurisdiction of the Russian Federation, to proceed in their activities from the fact that early imposed restrictive measures against that country do not apply to:

- the sale, supply or transfer to Libya of armaments and related materiel of all types, as well as the provision of training and the provision of technical, financial and other assistance intended solely to assist the Libyan authorities to ensure security and disarmament;
- the sale, supply or transfer to Libya of small arms and light infantry arms and related materiel, temporarily imported by Libya for the sole use by UN personnel, media personnel, humanitarian workers as well as by associated personnel involved in the developmental matters.

**Decree no. 603 of the President of the Russian Federation of 7 May 2012 'On Implementation of the Plans (Programs) of Construction and Development of the Armed Forces, Other Troops, Military Formations and Bodies, and Modernization of the Defence-Industrial Complex'**

According to the Decree, the Government should ensure the promotion of the course directed at:

a) Equipment of the Russian Armed Forces, other troops, military formations and bodies of modern weapons, military and special equipment, bringing their share to 70% by the year 2020.

b) Priority development of the forces of nuclear deterrence, of air- space defence systems, of communication systems, intelligence and control systems, electronic warfare systems, of unmanned aerial vehicles, robot attack systems, of modern transport aviation, of precision-guided weapons and means to deal with them, and of systems of individual protection of the military.

c) Development of the Russian Navy, especially in the Arctic zone and the Far East, in order to protect strategic interests of the Russian Federation.

g) Implementation of the most important events in 2012, including:

- creation of a qualitatively new system of analysis and strategic planning in the field of countering threats to national security in the period of 30-50 years in the interests of the formation of governmental weapons programs;
- expansion of the practice of public tenders and auctions within the framework of a State Defence Order (SDO/GOZ) and increasing accountability for violation of the requirements established by the laws and other normative legal acts of the Russian Federation in the field of SDO/GOZ;
- improvement of the legal framework in the field of SDO/GOZ and pricing in respect of military products;
- establishing a system for managing a total industrial production cycle of armaments, military and special equipment;
- ensuring dynamic development of breakthrough high-risk R&D of fundamental science and implementation of applied research programs in the interests of national defence and security, including the participation of the Russian Academy of Sciences, the state's leading research centres and universities.

**Decree no. 605 of the President of the Russian Federation of 7 May 2012 'On Measures for Implementation of the Foreign Policy of the Russian Federation'**

The Decree identifies key directions of the work of the Russian Ministry of Foreign Affairs in cooperation with other federal governmental bodies in order to implement consistently the foreign policy of the Russian Federation and defend its national interests on the basis of the principles of pragmatism, openness and multiple-vector policy under conditions of the formation of a new polycentric international system.

1. In this context, according to the Decree, the Russian Foreign Ministry should:

- Promote the creation of favorable external conditions for the long-term development of the Russian Federation, modernization of its economy, strengthening the position of Russia as an equal partner in the global markets.

- To seek to achieve the rule of law in international relations, uphold the UN's central role in world affairs, the fundamental principles of the UN Charter, which require to develop friendly relations among nations based on equality, respect for their sovereignty and territorial integrity, the primary responsibility of the UN Security Council for the maintenance of international peace and security, to expand the contribution of the Russian Federation in the UN peacekeeping operations.

- To promote revitalization of collective international efforts to counter global threats and challenges, including the risk of proliferation of WMD and their means of delivery, international terrorism, drug trafficking, organized crime, regional conflicts.

- To consider the development of multilateral cooperation and integration processes in the CIS as a key area of foreign policy of the Russian Federation.

- In the relations with the European Union – to act to achieve the strategic goal, i.e. the creation of a common economic and human space from the Atlantic to the Pacific Ocean.

- In the Asia-Pacific region – to promote the initiative to form in the APR a new architecture of security and cooperation based on collective non-bloc principles, norms of international law and the principle of equal and indivisible security.

- In the Euro-Atlantic region – to continue to work to establish a system of equal and indivisible security on international legal basis; to develop relations with NATO in accordance to its willingness to consider the interests of the Russian Federation in the sphere of security and strategic stability and promote initiatives to reform the OSCE in order to make it an effective instrument of collective interaction in the interests of all state participants.

- In relations with the United States – to follow a policy of maintaining stable and predictable interaction on the basis of equality, non-interference in internal affairs and respect for mutual interests, focusing on the bringing of the bilateral cooperation to a truly strategic level, to ensure consistent implementation of the

2010 Treaty between the Russian Federation and the United States on Measures for Further Reduction and Limitation of Strategic Offensive Arms.

- In relation to crisis situations – to seek a political and diplomatic settlement of regional conflicts on the basis of collective action by the international community through the involvement of all interested parties in the negotiations.

- To carry out a constructive policy of strengthening the multi-format cooperation in the Arctic while respecting the sovereignty and jurisdiction of the Arctic states; to continue to work to preserve and expand the presence of the Russian Federation in the Antarctic, including through the effective use of the mechanisms and procedures under the Antarctic Treaty system.

2. The Russian Foreign Ministry is to submit in accordance with established procedure prior to December 2012 the redrafted concept of the Russian foreign policy and to coordinate the work related to the implementation of the Decree of the President of the Russian Federation.

**Ordinance no. 581 of the Government of the Russian Federation of 13 June 2012 'On the Licensing of Development, Production, Testing, Installation, Assembly, Maintenance, Repair, Recycling and Sales of Armament and Military Equipment'**

The Ordinance approves the Regulation on the procedure for licensing of the above activities carried out by legal entities on the territory of the Russian Federation. It is emphasized that the established procedure does not apply to the realization of R&D related to the development of weapons and military equipment. The Ordinance defines the Federal Service for Defence Contracts as the licensing authority.

**Directive no. 1197-r of the Government of the Russian Federation of 6 July 2012 'On the Designation of the Unique Performer of the Works Related to the Preparation and Implementation within the Framework of the Global Initiative to Combat Nuclear Terrorism in Russia in the III quarter of 2012 of Demonstration Exercises with the Use of Domestic Instrumental Base for the Detection of Nuclear Materials'**

**Directive no. 314-r of the President of the Russian Federation of 12 July 2012 'On Sending Russian Servicemen to the United Nations Observer Mission in Syria'**

In accordance with the UN Security Council Resolution 2043 (2012) of 21 April 2012 on the establishment of the above-mentioned UN Mission, the Russian Foreign Ministry was instructed to inform the UN Secretariat of the readiness of the Russian Federation to send up to 30 Russian servicemen, as liaison officers, military observers and staff officers, to the UN Mission.

**Directive no. 329-r of the President of the Russian Federation of 25 July 2012 'On the Signing of the Protocol to the Treaty on the Nuclear-Weapon-Free Zone in Southeast Asia'**

The Directive lists Russian reservations related to the signing of the above-mentioned Protocol.

**Directive no. 438-r of the President of the Russian Federation of 30 September 2012 'On Signing the Agreement between the Russian Federation and the Kyrgyz Republic on the Status and Conditions of the Joint Russian Military Base on the Territory of the Kyrgyz Republic and the Protocol between the Russian Federation and the Kyrgyz Republic on Cooperation in the Military Field in the Period Preceding the Entry into Force of the Agreement between the Russian Federation and the Kyrgyz Republic on the Status and Conditions of the Joint Russian Military Base on the Territory of the Kyrgyz Republic'**

**Directive no. 462-r of the President of the Russian Federation of 14 October 2012 'On Signing the Treaty between the Russian Federation and the Republic of Kazakhstan on Military-Technical Cooperation'**

**Directive no. 501-r of the President of the Russian Federation of 6 November 2012 'On Signing the Agreement between the Russian Federation and the Republic of Kazakhstan on the Establishment of a Joint Regional Air Defense System of the Russian Federation and the Republic of Kazakhstan'**

**Directive no. 2133-r of the Government of the Russian Federation of 19 November 2012 'On Signing the Agreement between the Government of the Russian Federation and the Government of the Kyrgyz Republic on Cooperation in the Field of Atomic Energy for Peaceful Purposes'**

**Directive no. 2134-r of the Government of the Russian Federation of 19 November 2012 'On Signing the Agreement between the Russian Federation and the Republic of Tajikistan on Cooperation in the Field of Atomic Energy for Peaceful Purposes'**

**Directive no. 2393-r of the Government of the Russian Federation of 15 December 2012 'On Signing the Agreement between the Government of the Russian Federation and the Government of the Republic of Belarus on Cooperation in the Field of Nuclear Safety'**

## 11. DECLARATION OF THE FIFTH ANNIVERSARY CONFERENCE OF THE INTERNATIONAL LUXEMBOURG FORUM ON PREVENTING NUCLEAR CATASTROPHE

***Contemporary Problems of Nuclear Non-Proliferation (4-5 June 2012, Berlin)***

Participants of the Conference appreciate the significant work undertaken by the Luxembourg Forum on Preventing Nuclear Catastrophe since its inception five years ago.

During this time the Luxembourg Forum conducted twelve conferences, workshops and seminars dedicated to the most important and urgent problems concerning nuclear disarmament, non-proliferation and international security. Representatives of the Luxembourg Forum have met with high officials of the leading nations and international organizations, among them, Minister of Foreign Affairs of the Russian Federation Sergey Lavrov, First Deputy Minister of Foreign Affairs of the Russian Federation Andrey Denisov, Deputy Minister of Foreign Affairs of the Russian Federation Sergey Ryabkov, Deputy Minister of Defence of the Russian Federation Anatoly Antonov, Acting Under Secretary of State Rose Gottemoeller, Director General of IAEA Mohamed ElBaradei.

During the last five years the Luxembourg Forum has addressed US-Russian security relationships as well as regional conflicts and broader proliferation matters. The Luxembourg Forum has published eight books and booklets reflecting the discussions and findings of the conference and workshops. On the basis of the meetings of the Luxembourg Forum the participants adopted twelve final documents which were presented to the leaders of states and

organizations both regional and global (UN, IAEA, OSCE, EU, NATO, CSTO). In response to these final documents a number of letters of support and encouragement were received, among them letters from the Secretary General of the United Nations, the President of the European Commission, the Secretary General of the North Atlantic Treaty Organization.

The Luxemburg Forum received direct commendations from the Presidents of the Russian Federation Vladimir Putin and Dmitry Medvedev and Minister of Foreign Affairs Sergey Lavrov. The activity of the Forum was mentioned in the speeches of the officials, works of well known specialists and reports of international expert community.

The Luxembourg Forum fully endorses the vision of a nuclear weapons free world revived by prominent American statesmen (George P. Shultz, William J. Perry, Henry A. Kissinger, Sam Nunn) and supported by many well-known political and public figures of a number of other countries including the Russian Federation (Yevgeny Primakov, Igor Ivanov, Evgeny Velikhov, Mikhail Moiseyev). The activities of the Luxembourg Forum have been aimed at promoting this idea in various practical ways and agreements pertaining to specific issues of nuclear non-proliferation and disarmament.

The participants of the Fifth Anniversary Conference are deeply concerned by the new deadlock and growing controversies among the great powers, foremost between Russia and the United States, over the prospects and conditions for further nuclear disarmament and non-proliferation. This is all the more disheartening after considerable breakthroughs achieved in the context of the 'reset' of Russian-American security relations in 2009-2012: signing and ratification of the New START Treaty, successful outcome of the Eighth Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons, and the adoption of the documents of Nuclear Security Summits in Washington and Seoul.

In the meantime the arms race is continuing as well as the proliferation of nuclear weapons and the delivery systems in the world. Regional crises and armed conflicts as well as acts of non-state terror may escalate in scale, geography, destruction and fatalities. This is especially the case in the Middle East, South Asia and the Korean Peninsula as extensively debated in the UN and the

IAEA. These problems were in the center of the discussions of the Luxembourg Forum.

The participants of the Fifth Anniversary Conference of the International Luxembourg Forum on Preventing Nuclear Catastrophe dedicated to 'Contemporary Problems of Nuclear Non-Proliferation' call on the leaders of the Russian Federation and of the United States, their allies and all responsible nations, as well as international organizations, to apply the necessary political will, flexibility and ingenuity in order to overcome the present impasse and resume consistent steps along the way of nuclear disarmament, enhancing non-proliferation regimes and facilitating cooperative international security at large.

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