

Nuclear Disarmament, Arms Control and Non-proliferation Programme – Presentation

The overall goal of the SIPRI Programme on Nuclear Disarmament, Arms Control and Non-proliferation is to contribute to a better understanding of key trends and developments in nuclear armaments, their security and arms control implications and ways to promote the eventual elimination of nuclear weapons.

The SIPRI nuclear research agenda has three main pillars.

- a) The pillar focuses on political, legal and normative aspects of nuclear disarmament, arms control and non-proliferation;
- b) the second pillar focuses on the technical and functional issues related to nuclear arms control and nuclear restraint measures; and
- c) The third pillar involves tracking developments related to global nuclear forces and doctrines. This of course is work that we do in preparing the World Nuclear Forces chapter for the Yearbook.

Current activities and areas of research

1. Project on ‘Assessing nuclear deterrence risks and challenges in South Asia’

The team have received a €300.000 grant from the German Foreign Ministry for a new project on ‘Assessing nuclear deterrence risks and challenges in South Asia’. The project officially began January 1, 2020 and is scheduled to last for 18 months until June 30, 2021. Petr is the SIPRI researcher responsible for implementing the project and will be joined by Associate Senior Fellow, Lora Salmaan.

During the project, there will be two workshops with participants from EU, China, India, Pakistan, and the United States: one is planned, or rather was originally planned, to be held in China this June; and the other will be here at SIPRI in the autumn of 2021. In terms of work output, there will be two SIPRI policy briefs based on the workshops; and one concluding SIPRI Insight on Peace and Security paper. In addition, several blog pieces will be produced for the SIPRI website.

As for the project’s aims, the near-term objective is to contribute to a better understanding of nuclear security and stability in the Asia-Pacific region through dialogue among India, Pakistan and China. SIPRI seeks to facilitate a regional dialogue aimed at enhancing awareness of the escalatory risks associated with the expansion and enhanced alert levels of nuclear capabilities and introduction of emerging technologies. Through this interaction, particularly given recent tensions at the India-Pakistan border and longstanding Indian suspicions over China’s strategic role in the region, the project seeks to provide context for understanding nuclear risk factors. It also seeks to use this dialogue as a means of identifying nuclear risk mediation measures within the region, as well as best practices in the areas of nuclear safety and security.

More generally, the project is intended to contribute to the process of expanding dialogue among India, China, and Pakistan on nuclear postures. In doing so, it seeks to lay the groundwork for the future expansion of the nuclear doctrine dialogue beyond the so-called P5 dialogue in the NPT framework. In practical terms, this will involve the creating a network of experts and, when possible, practitioners while encouraging diversity of dialogue on nuclear-

related issues that expands beyond the usual list of participants. It could also involve bringing to SIPRI a Chinese or South Asian researcher/ visiting fellow.

2. Reducing the salience of nuclear weapons

A second activity currently underway is Tytti and Petr are preparing a report with funding support from the Hiroshima Prefecture in Japan. This is actually the third project for Hiroshima. The team did one in 2018 that led to the publication of a SIPRI Working Paper on *Setting the Stage for Progress Towards Nuclear Disarmament*. This was followed up on this last year with the publication of a Working Paper on *Operationalizing Nuclear Disarmament Verification* that picked up on some of the recommendations from the previous report.

The current report is not about nuclear disarmament verification. It is instead about recent trends in nuclear policies that highlight the decisions taken by some nuclear-armed states—in particular, Russia and the United States—to give new or expanded roles to nuclear weapons in their military plans and doctrines. The decisions reflect the increased salience of nuclear weapons in their national security strategies that marks a significant reversal of the post-cold war trend toward the gradual marginalization of nuclear weapons.

As the report highlights, the underlying changes in these states' nuclear deterrence doctrines have led to the effective lowering of the threshold of nuclear weapon use. The first part assesses various scenarios for the first-use of nuclear weapons based on evolving doctrines and threat perceptions, which in turn underscore the need for risk-reduction measures based on “nuclear restraint”. The second part proposes practical measures for promoting and implementing such restraint.

The report will be presented during a side-event hosted by the Hiroshima Prefecture at the upcoming 2020 NPT Review Conference meeting in New York that begins in late April

3. Nuclear-related publications

a) Tarja Cronberg is currently writing a book on the sociology of nuclear weapons. It applies the sociology of technology developed in the late 1980s and the 90 to nuclear weapons/ nuclear technology. She analyses the international rules (the NPT) managing the nuclear order. Her basic question is—is there a need to renegotiate the nuclear order? Tarja expects the book will be completed by the end of 2020.

b) SIPRI Senior Fellow Bob Kelley has produced two draft manuscripts related to nuclear disarmament verification. These are in the currently in the production process. One is a comprehensive technical study of the international dismantlement of South Africa's nuclear weapons and production infrastructure back in early the 1990s. Bob, was of course one of the lead US inspectors who took part in that activity— his insights will make a uniquely valuable contribution to the historical record. The second is a background paper that examines the possibility to promote concrete progress toward nuclear disarmament through a multilateral agreement among the nuclear weapon-possessing weapon states on halting the production of tritium for use in nuclear warheads. The idea is to time the paper's publication to coincide the opening of the 2020 RevCon so as to provide food for thought for both the analytical and civil society communities.

Current areas of research

1. Joint Comprehensive Plan of Action (JCPOA)

We are continuing to do work related to reviving the JCPOA which is currently in critical condition if not on institutional life support. In January, Tarja also wrote a piece for the ELN

on the current state of the JCPOA. Together with Tytti, she wrote a blog publication for the SIPRI website on the decision by France, Germany and the UK to trigger the JCPOA's Dispute Resolution Mechanism, warning that the process might lead not only to the collapse of the agreement, but also to Iran's withdrawal from the NPT. Tytti will also write a section dealing with the JCPOA in the Clingendael *Spectator*'s Special Issue on Arms Control, due in April.

2. Iran's missile programme

Later in the spring or during the summer, Tytti plans to co-write a piece with Pieter Wezemann missiles in the Middle East, based on their unpublished EU Help Desk paper on the topic from last year. This is a good example of cross-programme cooperation within the cluster.

3. Middle East regional security

Tytti is just in the process of finishing the final draft of her EUNPDC paper dealing with the arms control-regional security nexus in the Middle East. The paper argues that while saving the JCPOA should remain a priority for the EU, it should also develop a more comprehensive approach to the Middle East, taking into account the interconnectedness between arms control and regional security. This is of direct relevance for understanding the prospects for moving forward the renewed diplomatic discussions about a WMD-free zone in the Middle East.

This was highlighted as an example of possible intra-cluster and also further cross-cluster synergies, since the work could naturally complement our MENA programme once it gets underway

Longer-term research goals

Future arms control agenda

The analytical point of departure should be that a future arms control agenda—at least in the US-Russian context—would not look like the ‘traditional’ agenda that took shape during cold war and post-cold war years. Instead, it will have to take into account new technological and strategic realities. First and foremost, the future agenda will need to be based on a more expansive notion of strategic stability that takes into account the evolving relationship between strategic offensive and defensive forces (for example, hypersonic boost-glide vehicles vs. missile defences); advanced conventional precision-guided strike systems that can be given roles and missions currently assigned to nuclear forces; and emerging (or emergent) technologies. The latter include cyberwarfare and AI capabilities.

Against this background, it is fair to say China is also likely to feature into future arms control agenda.

SIPRI strategic decisions

Nuclear forces data

One of the long-term goals has to do with this third pillar of the research agenda. This is, first and foremost, a *quantitative* exercise that involves preparing the annual estimates of global holdings of nuclear weapons (specifically, how many warheads and associated delivery vehicles does each of the nine nuclear weapon-possessing states hold). The data is published in the SIPRI Yearbook, which since 2001 has been done in co-operation with Hans Kristensen who is currently at the Federation of American Scientists.

In terms of data production, there are two strategies: a) reliance on the in-house expertise, and b) publishing somebody else's data. In-house expertise is a multi-year financial commitment

in terms of hiring and retaining personnel, maintaining institutional memory. It does, however, allow SIPRI to control the data production and transparency in terms of the methodology.

A renewed WMD Programme?

Up until 2018 the SIPRI nuclear weapon programme was the nuclear weapon project, which was part of the Programme on Arms Control, Disarmament and Non-proliferation. The difference was that the programme then included a chemical and biological weapons project. The CBW elements were subsequently dropped once the relevant researchers departed SIPRI. We do of course cover chemical and biological security threats in the SIPRI Yearbook with very good contributions from commissioned authors (Caitriona McLeish and Filippa Lentzos) However, the question is raised of whether we may wish to consider bringing these elements back into SIPRI by hiring full-time researchers to work on them again. In light of recent developments, especially given the allegations of CW use in Syria in-house expertise would be welcome.