The 16th meeting of the Study Group on Countering the Proliferation of Weapons of Mass Destruction (WMD) of the Council for Security Cooperation in the Asia-Pacific (CSCAP) was held at the Rex Hotel in Ho Chi Minh City, Vietnam on November 6-8, 2012. It brought together 39 senior participants from 17 countries from throughout the Asia-Pacific region and beyond, as well as 23 Pacific Forum CSIS Young Leaders from seven countries. All attended in their private capacities. The report that follows reflects the views of the chair. While it has been reviewed by all participants, it is not a consensus document.

Session 1: Recent Developments in Countering Proliferation of WMD

Manpreet Sethi (CSCAP India) opened the meeting with an update on the implementation of the 2010 Action Plan concluded at the Eighth NPT Review Conference. She focused on four main areas: nuclear disarmament, nuclear nonproliferation, the peaceful uses of nuclear energy, and the prospects for the establishment of a Middle East WMD-free zone.

There have been a few positive developments in the area of nuclear disarmament. Significantly, New START has entered into force after being ratified by the United States and Russia. The P-5 have been engaged in regular discussions on arms control and disarmament: they met in London (September 2009), Paris (June 2011), and Washington, DC (June 2012). Also important is China’s chairmanship of the P-5 working group on developing a glossary of key nuclear terms. Nuclear-armed states, however, have not yet begun to address the need for changes in military doctrines regarding the role of nuclear weapons. Nuclear modernization and refurbishment continues, and there is no move toward legally binding negative security assurances. In these circumstances, there is a need to go back to basics and rethink deterrence and the role of nuclear weapons. In addition, there is a need for discussions on extended deterrence, as well as de-alerting, de-targeting, and de-mating of nuclear weapons.

Discussions on nuclear nonproliferation during the past months have focused on the role and resources of the IAEA as well as on encouraging the adoption of the Additional Protocol, which an increasing number of states have adhered to. There has also been progress on the development of multilateral approaches to the nuclear fuel cycle: the
International Uranium Enrichment Center (IUEC) at Angarsk is now operational and the IAEA-controlled low-enriched uranium (LEU) Bank has been endorsed by the Board of Governors. Finally, nuclear security has received a boost with the March 2012 Nuclear Security Summit, which took place in Seoul. On the down side, the Iranian and North Korean nuclear crises are yet to be resolved; there has been no progress toward entry into force of the Comprehensive Test Ban Treaty (CTBT) or the start of negotiations for the conclusion of a Fissile Material Cut-off Treaty (FMCT); consensus is still lacking on revising Article X of the NPT; and this treaty is not yet universal, with India, Israel, North Korea, and Pakistan remaining outside the regime.

Significant developments in the area of peaceful use of civilian nuclear energy include the US's IAEA Peaceful Uses Initiative, notably, and various efforts to strengthen the IAEA technical assistance program. With the ongoing nuclear renaissance, it is urgent that states share best practices on nuclear safety and security.

Prospects for the establishment of a Middle East WMD-free zone remain uncertain. A facilitator and host country have been appointed and numerous meetings have taken place with key stakeholders in the region, but progress is uncertain in the wake of the "Arab Spring" and developments in Libya and Syria. To this day, there has been no clarity on the conduct of the conference and on who the participants would be.

Overall, despite some positive developments, much uncertainty remains about the future of the nonproliferation regime (even though an agenda for the 2013 Preparatory Committee meeting was adopted at this year's meeting). Political leadership is lacking and key stakeholders need to understand that maintaining international peace and security will require more than a narrow focus on individual national interests.

Victor Mizin (CSCAP Russia) then took the floor to discuss US-Russian arms control talks. He stressed that the implementation of New START was proceeding well and that its verification regime is setting an important precedent for future agreements.

Four sets of problems will prevent further progress. The first concerns the prospect for additional reductions in strategic forces. Reaching agreement on further reductions will be difficult to meet because it will require the involvement of all nuclear-armed states, the non-deployment of space weapons, the guarantee that there will be no state with a "breakout nuclear potential," no unilateral deployment of an anti-ballistic missile (ABM) system, no perceived qualitative or quantitative imbalances in conventional arms, ratification of the CTBT, and more generally, a positive assessment and the perceived good health of the nonproliferation regime.

The second set of problems concerns missile defense. Moscow believes that the US systems are directed against Russia and it is responding by developing new ICBMs and SLBMs, and by deploying airspace defenses.

The third set of problems deals with non-strategic nuclear forces. There has been no change in NATO forces and the Russian stance on this category of weapons remains
the same: the US needs to remove its weapons from Europe first for any discussion to take place. Finally, there has been no progress in conventional arms control, where the CFE process remains deadlocked (and appears inadequate to solve current issues).

Nevertheless, there are areas where the United States and Russia have common interests and could cooperate: solving the Iranian and North Korean nuclear crises, working toward the establishment of a Middle East WMD-free zone, and strengthening the emerging P-5 dialogue process.

In the discussions, several participants asked whether the Russian government was using the US ballistic missile defense program as an excuse to modernize its forces. Russia feels weak and is determined to proceed with the modernization of its nuclear and conventional forces as a result. It was suggested that the next round of US-Russian bilateral arms control is likely to materialize only if Moscow proposes it.

Participants suggested that it was time for all nuclear-armed states to engage in a serious dialogue about nuclear forces and doctrines. Although the P-5 process was viewed as a positive development by many participants, it was suggested that all nuclear-armed states should take part in this process and that discussions should "go back to basics" to enhance cooperation and reduce mistrust among these powers.

Many participants expressed frustration about the slow pace of the disarmament process and suggested that a key impediment was extended deterrence. Some stressed that it was important to conduct more research on the non-nuclear components of extended deterrence and how this could help make progress toward nuclear disarmament. Another issue raised was the perceived benefits and problems associated with emphasizing the humanitarian consequences of nuclear use: some participants explained that only such an approach could result in significant progress toward a nuclear-weapon-free world, while others suggested that it could instead reinforce the perceived need and value of nuclear deterrence. Overall, most seemed to believe that the United States had significant leverage to move the world toward nuclear disarmament.

There remains a divide between states concerned primarily about proliferation prevention and those mostly interested in nuclear disarmament. Participants remained at a loss as to how to bridge the divide.

**Session 2: The Korean Peninsula and Denuclearization**

Chang-Hoon Shin (CSCAP Korea) focused on South Korean public perceptions of the threat posed by North Korea's nuclear weapons. According, to a June survey by the Asan Institute for Policy Studies 74.6 percent of the respondents consider North Korea's nuclear weapons to be threatening (against 24.6 percent who did not view them as threatening). 62.9 percent of the respondents believe that North Korea will use its nuclear weapons (against 33.7 percent who did not believe it would use them). Fifty-two percent of the respondents believe that the United States will use nuclear weapons
against North Korea (against 41.4 percent). Of greatest interest and concern, 70.3 percent believe that the ROK should develop nuclear weapons; 27.8 percent believe that it should not. The reasons advanced by respondents against the development of nuclear weapons by the ROK are linked to the dangers of the nuclearization of Northeast Asia (39.1 percent), the dangers of engaging in a military competition with North Korea (25.2 percent), and the sanctions that would likely be imposed by the international community (16.1 percent).

Two subsequent surveys focused on public perception of South Koreans concerning North Korea. They suggest that between 2011 and 2012, South Koreans have increasingly come to consider North Korea "one of us or neighbor" (60.5 percent of respondents in 2012 against 46.4 percent in 2011). These percentages, however, are higher among the older generations than among the younger generations. Moreover, in recent years, South Koreans have tended to believe that the likelihood of war has increased: 58.8 percent of respondents in 2012 against 40 percent in 2010. In terms of policy options toward North Korea, 59 percent of the respondents believe in 2012 that economic cooperation is a key consideration, against 41.5 percent in 2011.

Kim Yong Guk (CSCAP DPRK) explained that recent developments on the Korean Peninsula suggest that regional actors are moving toward an arms race, not disarmament. He reminded participants that talks between the DPRK and the United States led to an important agreement on Feb. 29, 2012, according to which the US would not regard the DPRK with hostile intent, would take steps to improve bilateral relations, and would offer food assistance to Pyongyang. In return, the DPRK would suspend nuclear tests, long-range missile launches, and uranium enrichment activities. However, the deal collapsed after the DPRK launched a satellite in April because the US argued that Pyongyang had conducted a long-range missile test.

The DPRK considers that the US decision to scrap the agreement shows that Washington applies double standards in managing world affairs. All sovereign nations, including the DPRK, are entitled to explore and utilize outer space for peaceful purposes. The recent US approval of South Korea's plan to extend the range of ballistic missiles is evidence that the United States is not fair in its dealings with regional actors.

Kim went on to argue that the DPRK was compelled to develop nuclear weapons in response to US hostile intentions toward Pyongyang and its threat of a nuclear attack. The hostile US policy has deep historical roots: the United States has never recognized the DPRK as a sovereign member of the international community with whom it wants to coexist. Even though Washington terminated the application of the "Trading with Enemy Act" toward the DPRK and removed the DPRK from the list of states sponsoring terrorism, both states remain technically in a state of war and the United States imposes economic sanctions against Pyongyang.

Prospects for the resolution of the stalemate are bleak. In the past, the DPRK and the United States agreed to the principle of simultaneous action steps, with the United States gradually giving up its hostile policy and the DPRK moving toward the elimination
of its nuclear arsenal. This "action-for-action" process, however, has proved unworkable and, therefore, the DPRK believes that the US should first give up its hostile policy before the DPRK makes any move toward denuclearization.

Jang-Keun Lee (Member of the UN Panel of Experts, UNSCR 1874) focused on the UN Security Council sanctions regime against North Korea. UN Security Council resolutions and other relevant documents, notably Resolution 825 (1993), calls upon North Korea to reconsider its announcement on NPT withdrawal and to honor its NPT obligations; Resolution 1695 (2006), demands that North Korea suspend all ballistic missile-related activities and requires UN member states to prevent trade with this country on missile-related items and technology; Resolution 1718 (2006), condemns North Korea's nuclear test, imposes sanction measures, and established the 1718 Committee to oversee the Resolution's implementation; and Resolution 1874 (2009), passed after North Korea's second nuclear test, strengthens sanction measures and establishes a panel of experts to ensure its thorough and comprehensive implementation. The sanctions regime's goals are threefold: prevent the proliferation of WMD and missiles, buy time for diplomatic solutions, and target measures to limit the negative impacts of sanctions on North Korea’s economy and population.

The sanctions committee supports peaceful dialogue, calls upon North Korea to return immediately to the Six-Party Talks without preconditions, and urges all the participants to intensify their efforts to move toward the denuclearization of the Korean Peninsula. It also expresses its commitment to a peaceful, diplomatic, and political solution to the situation and welcomes efforts by Council members as well as other UN member states to facilitate a peaceful and comprehensive solution through dialogue and to refrain from any actions that might aggravate tensions. Finally, the sanctions committee affirms that it will keep North Korea's actions under continuous review and that it will be prepared to review the appropriateness of various measures detailed in prior sanctions resolutions.

There are three types of sanctions under UN Security Council Resolutions 1718 and 1874: goods-related sanctions, individual and entities targeted sanctions (asset freeze and travel ban), and financial vigilance measures. Goods-related sanctions prohibit buying from or selling to North Korea all arms and related material (except small arms and light weapons), buying from or selling to North Korea listed items that could contribute to the country's WMD and missile programs, and supplying luxury goods to North Korea. Targeted financial measures on individuals impose an asset freeze, the prevention of provision of financial services and transfers, and travel bans on Yun Ho-jin, Ri Je-son, Hwang Sok-hwa, Ri Hong-sop, and Han Yu-ro. Similarly, targeted financial measures on entities impose an asset freeze and the prevention of providing financial services and transfers on numerous organizations such as the Korea Mining Development Trading Corp. or the General Bureau of Atomic Energy. Significant financial vigilance obligations were first described in UN Security Council Resolution 1874. They prohibit 1) financial transactions related to the provision, manufacture, maintenance, or use of arms or material, 2) the provision of financial services that could contribute to North Korea's WMD and missile programs, 3) new commitments for grants, financial assistance, or concessional loans to North Korea, except for humanitarian and
developmental purposes, and 4) public support for trade with North Korea where such support could contribute to North Korea’s WMD and missile programs.

According to the sanctions regime, all states are called upon to inspect all cargo to and from North Korea, in their territory, including seaports and airports, [or on the high seas, with the consent of a vessel's flag state.] if the state concerned has information that provides reasonable grounds to believe the cargo contains items prohibited by the resolutions. UN member states are required to seize and dispose of the prohibited items and promptly report any such inspection to the sanctions committee. UN member states are also required to report to the UN Security Council on concrete measures taken to implement effectively the relevant provisions of the resolutions.

The panel of experts aims to assist the committee in carrying out its mandate. It gathers, examines, and analyzes information from states, relevant UN bodies, and other interested parties regarding implementation, in particular incidents of noncompliance. The panel also recommends actions that the Security Council, the committee, or member states may consider to improve implementation, and it submits one mid-term and one final report to the Security Council.

The 2012 Final Report of the Panel of Experts reports various noncompliance incidents, including WMD- and missile-related transfers, arms and related material transfers, and trade of luxury goods. The report also describes some interdiction operations. Most of the inspections reported to the committee involved movement by sea. Moreover, in almost all cases reported to the committee or brought to the attention of the panel, North Korea transshipped illicit cargo onto vessels operated by large international shipping companies. With regard to financial measures, because there is no requirement to report investigations of possible illicit movements of funds, no UN member state has ever volunteered such a report. Some member states, however, have provided confidential financial information to the panel, including on involvement of certain banks and routing of funds, in the context of investigation into incidents of possible violation of sanctions.

Overall, for sanctions to be better implemented, the quantity and quality of information-sharing among countries should be increased; incidents should be reported systematically and national implementation reports should be drafted and shared. (So far only 50 percent of the UN member states have filed implementation reports.)

During the discussion, several participants reacted to the DPRK presentation, stressing that there is indeed a double standard in place vis-a-vis the DPRK, but that this double standard is not driven by the United States but by the international community as a whole in response to DPRK actions. It was also argued that the DPRK is responsible for creating its own problem by developing nuclear weapons; the international community was reacting to this development. Moreover, some participants stressed that the DPRK is creating a double standard by developing missiles that can reach its neighbors and refusing to recognize the ROK as a sovereign state, for instance.
One participant said the integrity of the NPT when it comes to the DPRK is being eroded. The longer it retains nuclear weapons, the more likely it is that its status as a nuclear-armed state becomes accepted. Thus, a solution to the deadlock is needed.

A short discussion then followed about the purpose of international sanctions. Some participants reminded the group that sanctions are not an end but a means to reach a goal: in the case of the DPRK, that goal is denuclearization.

**Session 3: Counterproliferation Initiatives**

Susan Koch, an independent consultant, discussed the origins and evolution of the Proliferation Security Initiative (PSI) and the Global Initiative to Combat Nuclear Terrorism (GICNT). The PSI has its origins in a failed 2002 interdiction of a North Korean vessel, the So San, which contained 15 complete SCUD missiles, conventional warheads, missile fuel, and oxidizer. Because Yemen objected, the operation was abandoned. The Bush administration announced the creation of PSI in May 2003. Shortly thereafter, its 11 founding members issued the PSI Statement of Interdiction Principles, i.e. the constitution of the PSI, which outlines the political commitments each participating state should take against WMD and missile proliferation, including interdicting proliferation transfers, streamlining information-sharing procedures on suspected proliferation, and other similar actions.

The PSI is an activity, not an organization. Adherence to the Statement of Interdiction Principles is the only criterion for PSI participation. The number of countries that have committed to adherence to the principles has grown to the current 102 (At the time of the meeting the number was 101, but Thailand subsequently committed to the principles in conjunction with President Obama’s visit to the country.) Despite controversy over the contribution of the PSI to nonproliferation and its basis in international law, the concept of cooperation to interdict shipments suspected of including WMD-related materials has won wide acceptance. However, support for the initiative is uneven across the regions and among states. Significantly, many Asian states including China, India, Indonesia, Laos, Malaysia, Myanmar, Pakistan, and Vietnam have not subscribed to the PSI.

Since 2003 the PSI includes an Operational Experts Group (OEG, now with 21 members, which works toward translating PSI principles into action through activities such as the planning and conduct of exercises, the identification of available and required interdiction capabilities, and the sharing of lessons from exercises and actual interdictions. The OEG members in the Asia-Pacific region are Australia, Canada, Japan, New Zealand, Singapore, South Korea, and the United States.

There has been approximately 50 PSI-related exercises. Most of them have focused on maritime capabilities, although several included ground, air, and/or port interdictions. Assessing the effectiveness of PSI is difficult. PSI participants provide little information about interdiction successes and none about failures. Also, it is not always clear what constitutes an interdiction and there is the classic problem that it is virtually impossible to prove what might have happened in the absence of the PSI.
The GICNT was consciously modeled after the PSI. Its implementation, however, has been different. For starters, the GICNT was announced jointly by President Bush and President Putin in July 2006, and the United States and Russia have remained co-chairs of the Initiative. The goal of the GICNT is to work with states to "prevent the acquisition, transport, or use by terrorists of nuclear materials and radioactive substances or improvised explosive devices using such materials, as well as hostile actions against nuclear facilities."

Like the PSI, the GICNT is an activity, not an organization. The only standard for participation is adherence to the Statement of Principles, which stresses partners' commitment to develop capacity to combat terrorism "consistent with national legal authorities and obligations they have under relevant international legal frameworks." The GICNT's membership has grown rapidly, from 13 to 85 participating states. Although the GICNT includes fewer participants than the PSI, they are politically more diverse, which may reflect a firmer consensus on the need to combat nuclear terrorism, as well as the impact of the Russian co-chairmanship. Several important states in the Asia-Pacific region including China, India, Pakistan, Malaysia, and Vietnam adhere to the GICNT but do not participate in the PSI.

GICNT members have held approximately 50 workshops, exercises, and planning meetings. In 2010, the Implementation and Assessment Group (IAG) consisting of 12 members (Russia, the United States, Australia, Canada, China, France, Germany, Italy, Japan, Kazakhstan, Turkey, and the United Kingdom) was activated to coordinate and facilitate GICNT activity. In 2012, the GICNT emphasized its close functional relationship with the Nuclear Security Summit, notably its work on nuclear detection, forensics, and response and mitigation.

The challenge facing both the PSI and GICNT is to maintain and increase dedication and momentum in the absence of a central forcing mechanism, and to reap the benefits of its flexible, non-bureaucratic nature without incurring costs.

In his presentation, Shahriman Lockman (CSCAP-Malaysia) argued that the term "counterproliferation," which was coined by the Pentagon, is generally seen as a muscular, military-dominated form of nonproliferation and, therefore, often creates unease among countries skeptical of military-led approaches to prevent the spread of WMD. It is also impossible to separate the PSI, a counterproliferation initiative, from the context in which it was introduced. In 2003, the same year the PSI began, the United States invaded Iraq, which involved preemption that was controversial, intelligence that was flawed, and still missing WMD.

For most countries that have not joined the PSI, the potential benefits are not particularly compelling. For starters, participation in the PSI is not a prerequisite for intelligence exchange on WMD. Being outside the PSI also does not mean that a country is unwilling to conduct interdictions in its territorial waters. What is more important is whether a particular country has the necessary domestic legislation that
would authorize its security forces to conduct interdictions. Finally, opportunities to improve national capacities to conduct interdictions, whether in the air or the sea, are not exclusively restricted to exercises held under the auspices of the PSI.

Given that almost half the world's sovereign states are now in the PSI, it has been argued that it has the potential to shape international norms on counterproliferation. However, little is known about PSI activities. It is also important to recognize that geographical location plays a major factor in the way states evaluate the PSI. It is much easier for a country to participate in the PSI when it does not expect to be regularly called upon to conduct interdictions. For example, the 23 landlocked states that have indicated support for the PSI do not have to consider the possibility of conducting interdictions at sea and having to contend with the complex legal issues posed by the 1982 UN Convention on the Law of the Sea.

The GICNT shares a number of key characteristics with the PSI. By most accounts, the GICNT was an easy sell in many countries that have not joined the PSI as it is primarily geared toward capacity building. Among developing countries, there is strong appeal in building national capacities, with the long-term view of minimizing reliance on the developed world. This is should not be underestimated when formulating counterproliferation efforts. The GICNT's focus on terrorism (and not on states) is also a comparative advantage over the PSI.

During the discussion, several participants from countries not participating in the PSI stressed that not participating does not necessarily mean that a country does not want to combat proliferation. The concern is that it is an activity that is not under the auspices of the United Nations and it is not clear if it is consistent with international law. One participant explained that shortly after the PSI was established, China conducted a study to decide whether it should join and concluded that the Initiative did not have sufficiently strong international legal basis.

Other participants argued that reflecting on whether the PSI is in line with international law addresses the wrong problem. The PSI was created to respond to a specific problem: the globalization of technology and the threat that sensitive technologies could fall into the hands of terrorists or proliferators. While efforts have been made to ensure that it is in line with international law (and the growing number of participants suggests that it has created a strong norm justifying its existence), it is important to remember what is at stake rather than focusing on legal technicalities. It seems somewhat hypocritical to block UN endorsement of PSI and then complain that it is not under UN auspices.

A short discussion followed about whether the PSI was mainly directed against the DPRK. Some argued that there was no evidence that the DPRK has proliferated and that suggestions to the contrary were fabricated by the United States. One participant argued that the DPRK should join the PSI to show that it is committed to fighting proliferation.
Session 4: The Comprehensive Nuclear-Test-Ban Treaty

Sari Widita (CSCAP Indonesia) gave the rationale surrounding Indonesia’s recent decision to ratify the CTBT. She began by explaining Indonesia’s role in nonproliferation and disarmament affairs, stressing that Indonesia is the Non-Aligned Movement (NAM) coordinator of the Working Group on Nuclear Disarmament and that it initiated the Southeast Asian Nuclear-Weapon-Free Zone. In recent years, Indonesia joined numerous nonproliferation and disarmament international regimes: in addition to ratifying the CTBT, it endorsed the Convention on the Physical Protection of Nuclear Material and adopted the IAEA Additional Protocol.

The primary reason for ratifying the CTBT was to enhance regional and global security. Jakarta also chose to endorse the Treaty to help prevent further vertical and horizontal proliferation. Ratifying the CTBT was also seen as a means to advance nuclear disarmament; it is a confidence building tool for the establishment and maintenance of regional security.

Indonesia was among the first countries to sign the CTBT, on Sept. 24, 1994, the day it opened for signature. Jakarta initiated the process of ratification in 2000 but its initial position was that nuclear weapon states should ratify the Treaty first. In 2010, in the run-up to the Eighth NPT Review Conference, Indonesia decided that "it was not in our interest to wait any longer." Thus, the ratification process was reinitiated and the Indonesian parliament voted unanimously to ratify the Treaty on Dec. 6, 2011. On February 6, 2012, Foreign Minister Natalegawa submitted the instrument of ratification to the United Nations. The hope is that Indonesia’s ratification will have both a pull and push effect on states that have not signed and/or ratified the CTBT.

Sunchai Nilsuwankosit (CSCAP Thailand) explained that Thailand signed the CTBT on Nov. 5, 1996 but that it had yet to be ratified, making Thailand one of the three remaining CTBT holdouts in ASEAN (with Brunei Darussalam and Myanmar). Thailand’s Atomic Energy for Peace Commission (the country’s commissioning board on the use of nuclear energy and nuclear technology) and the Office of Atoms for Peace were given the task of overseeing the ratification process.

In addition, two special committees were set up to prepare necessary adjustments to domestic laws related to the CTBT and to ensure that they meet its requirements. Due to the large number of changes needed in Thai laws to support ratification, a special committee was set up on March 10, 2011 to actively prepare for this development.

During the discussion, numerous participants stressed that Indonesia’s ratification of the CTBT was important, particularly given renewed pessimism about arms control. The Indonesian representative stressed that the initiative came from the foreign ministry, where momentum had been building.

There was also broad consensus among participants that the United States holds the key to CTBT entry into force and that US ratification of the Treaty would have a domino
effect on the other holdouts, notably the Annex 2 countries. However, ratification by the remaining Annex 2 holdout states seems unlikely due to domestic politics (in the case of the US), mistrust (in the case of China), and complex regional crises (in the cases of Egypt, India, Israel, North Korea, and Pakistan).

The role of ASEAN in promoting CTBT adoption and implementation was also discussed. Several participants argued that it should be more active in this domain. It was also noted that the ASEAN Regional Forum is working more closely with the CTBTO, in particular on technical cooperation on seismic technologies. With Brunei taking the ASEAN chair in 2013 (and Myanmar in 2014), several participants suggested that these two countries, which along with Thailand have not yet signed the Treaty, may do so in the near future. Participants agreed that an active regional campaign to raise awareness about the Treaty could help nudge holdouts toward ratification.

**Session 5: Nuclear Safeguards**

Jor-Shan Choi (Tokyo Institute of Technology) opened the session by providing a definition of safeguards: the timely detection of diversion of nuclear materials from peaceful nuclear activities to the manufacture of nuclear weapons, performed under agreements with the IAEA. Safeguards measures include nuclear material accountancy, containment and surveillance, and inspections. There are various types of safeguards agreements: 1) item specific, INFCIRC/66-type, for India, Israel, and Pakistan, 2) voluntary offer agreements (VOA), for the NPT-recognized nuclear weapon states, and 3) comprehensive safeguards agreements (CSA), INFCIRC/153-type, for non-nuclear weapon states. Beyond these safeguards agreements, there are also two types of protocols: the small quantities protocol (SQP), INFCIRC/276 and the additional protocol (AP), INFCIRC/540.

Before the conclusion of the NPT, safeguards coverage was limited. By 1961, it covered research reactors only (INFCIRC/26). In 1965, it expanded to cover all reactors (INFCIRC/66). One year later, it was revised and further expanded to cover reprocessing plants as well. In 1968, coverage was expanded to include procedures for safeguarding nuclear material in conversion and fuel fabrication plants (INFCIRC/66/Rev.2). Under CSAs, a state is required to "accept safeguard [...] on all source or special fissionable material in all peaceful nuclear activities." States are also required to establish a state system of accounting for control (SSAC) of nuclear material, provide information to the IAEA, facilitate access to the IAEA to key sites and facilities, and actively cooperate with the IAEA.

States are eligible for an SQP (GOV/INF/276, Annex B) if they have little or no nuclear material and no nuclear material in a nuclear facility. An SQP holds in abeyance much of the state's reporting and access requirements. It provides limited routine access, gives little attention to small quantities of material, and there is no assurance of absence of undeclared nuclear activities. In 2005, the SQP was amended to reinstate the state's obligation to provide an initial report on nuclear material, permit the Agency's access to
verify the initial report, and provide early information on any decision to construct a nuclear facility.

The discovery of Iraq’s nuclear weapon program after the first Gulf War revealed the proliferation risk through undeclared nuclear material and activities. A process was thus initiated to strengthen safeguards and assure the correctness and completeness of a state's declarations: the Additional Protocol gives the IAEA access to undeclared locations, environmental samplings, use of satellite imagery, among others.

Alumanda Dela Rosa (Philippine Nuclear Research Institute) began with a historical overview of the country’s policy on nuclear energy. The Philippines first reached an agreement for cooperation on nuclear energy and assistance for a nuclear research reactor in 1955. A current initiative ("Comprehensive Nuclear Regulation Act") proposes to create a separate and independent nuclear regulatory authority and address the gaps in the present laws, notably with regard to radioactive waste, emergency planning, nuclear security and physical protection, and safeguards.

The Philippines has been a state party to the NPT since Oct. 5, 1972. Its Comprehensive Safeguards Agreement with the IAEA entered into force on Oct. 14, 1974 and its Additional Protocol entered into force on February 26, 2010. The Philippines has two facilities under safeguards: the Philippine Research Reactor (PRR-1), which is currently under decommissioning process, and the Bataan nuclear power plant (BNPP), a shuttered facility.

Implementation of the Additional Protocol is conducted in close collaboration with US support program and regional bodies, such as the Australian Safeguards and Nonproliferation Office. This experience suggests that it is paramount to establish a system for collating Additional Protocol-related data, including a database of possible stakeholders. It is also critical to have updated and accurate facility layouts and site maps. More generally, proper implementation of the Additional Protocol demands thorough planning and preparation.

During the discussion, participants asked for an update on the status of nuclear energy development in the Asia-Pacific and beyond in the aftermath of the Fukushima Daiichi nuclear accident in Japan. On the whole, the so-called nuclear renaissance is still alive. China and India, for instance, have very ambitious nuclear power programs. One participant also mentioned the creation of ASEANTOM, a soon-to-be-established network of nuclear regulatory bodies for Southeast Asian countries, which is meant to help create more coordination and cooperation among them. Its contribution, along with that of the newly established Asia Nuclear Safety Network, remains unclear at present.

The discussion moved on to the attempt (initially proposed by the United States) to make the adoption of the Additional Protocol a precondition of nuclear fuel supply. Some participants explained that it was the right thing to do to provide confidence that nuclear activities were strictly for peaceful purposes. Other participants, however, expressed reservations. One participant, for instance, suggested that the Additional
Protocol could be used to spy on nuclear activities. It was explained that states are free to turn down inspectors if they so choose, even if they have an Additional Protocol in force. As one participant explained, the Additional Protocol should be regarded as a confidence-building measure: it is a means to prove that a state's nuclear activities are not for military purposes. There seemed to be no clear agreement on the matter and it was noted that at the moment, the customer, not the supplier, is controlling the nuclear energy sector, suggesting that adherence to the highest level of safeguards was not considered a priority. Moreover, there was confusion over how the various types of safeguards complement one another.

**Session 6: Nuclear Security**

Miles Pomper (James Martin Center for Nonproliferation Studies) opened the session with a presentation on the threat of nuclear terrorism and the policy responses. He stressed that nuclear terrorism remains a real danger: there is evidence that some terrorists are seeking nuclear weapons and materials, and they could make a crude nuclear bomb if they obtained nuclear material. Approximately 20 "real" cases of HEU or plutonium theft or smuggling have been recorded. A nuclear terrorist attack would have devastating consequences that would reverberate worldwide.

There are three main types of nuclear and radiological terrorism: 1) through the use of nuclear explosives, which would be catastrophic but remains difficult for terrorists to achieve (although it is not as implausible as some believe); 2) through nuclear sabotage, which would be potentially catastrophic but remains difficult to achieve (the Fukushima Daiichi nuclear plant accident in Japan offers lessons both for nuclear safety and nuclear security); and 3) through the use of a "dirty bomb," which would disrupt societal structures and is, unfortunately, within the reach of terrorists.

Access to nuclear material is the key to a nuclear terrorist attack. An attack using HEU in a gun-type bomb like the one that obliterated Hiroshima is within the capabilities of a sophisticated terrorist group; HEU is hard to detect, easy to smuggle, and less radioactive than plutonium, making it easier to handle. An attack using plutonium in an implosion bomb would be more difficult for terrorists but remains a possibility, particularly if they received assistance from a state.

There is no comprehensive nuclear security regime. The key international conventions dealing with nuclear security, namely the Convention on the Physical Protection of Nuclear Material and its amendment, the International Convention for the Suppression of Acts of Nuclear Terrorism, and the Code of Conduct on the Safety and Security of Radiological Sources, have important limitations. The United States has employed several direct strategies to reduce the nuclear terrorist threat and the goal of President Obama's Nuclear Security Summit process has been to accelerate this agenda. Although progress has been achieved, much remains to be done. Notably, there is a need to go beyond incremental steps and develop a broader vision for nuclear security. It is unclear what will happen at and after the 2014 Nuclear Security Summit, scheduled to take place in the Netherlands. While some suggest that the IAEA should take over
the nuclear security effort, others are pushing for establishment of a strengthened international legal regime driven by a more ambitious Nuclear Security Summit process.

Heigo Sato (CSCAP Japan) presented Japan’s role and achievements in promoting nuclear security. He explained that after the Sept. 11, 2001 terror attacks, Japan developed a policy focused on seven core action items, which it presented at the 2010 Nuclear Security Summit: 1) strengthen the security of its nuclear facilities, 2) strengthen the protection of nuclear material, 3) ratify the International Convention for the Suppression of Acts of Nuclear Terrorism, 4) develop anti-terrorism technology, 5) strengthen the control of radioactive sources, 6) conversion to use LEU in research reactors, and 7) strengthen export controls on nuclear and radioactive material.

Japan's contributions to the strengthening of nuclear security at the international level have been centered on encouraging the universal adoption of the relevant international treaties, conscientious implementation of UN Security Council Resolution 1540, and contributing to the work of the GICNT. At the domestic level, Japan has established an Integrated Support Center for Strengthening Nuclear Security in Asia. It has developed technology related to the measurement and detection of nuclear material and nuclear forensics. Japan has also contributed to the IAEA Nuclear Security Programs and it has hosted a conference of the World Institute for Nuclear Security.

At the 2012 Nuclear Security Summit, in the wake of the Fukushima Daiichi nuclear plant accident, Japan stressed the importance of preparing for unanticipated risks, such as a nuclear accident. It also emphasized the need to conduct rapid response operations, through field drills jointly conducted by the police, the Japan Coast Guards, and the Self-Defense Forces. Finally, Japan insisted on the need to prepare for worst-case scenarios and make continued efforts toward enhancing nuclear safety.

Japan also took a range of measures to overcome the vulnerabilities of its nuclear facilities, including the strengthening its power supply equipment and improving response procedures and interagency coordination manuals. In order to strengthen its counter-terrorism policy, Japan reinforced its manned guard structure, improved the protection of its facilities and the security of its equipment, and worked to enhance information security. At the international level, Japan expanded its human and material assistance to developing countries and coordinated with like-minded countries through efforts to ensure transportation security. It also continued its cooperation with the IAEA through continued contributions and through sharing best practices in the implementation of the Agency’s recommendations.

With the United States, Japan is cooperating within the Integrated Support Center for Nuclear Nonproliferation and Nuclear Security. Both states conduct research and development of nuclear forensics techniques and share best practices on measurement and detection technologies. They are cooperating on safeguards implementation and share best practices on nuclear security in new facility design, as well as on transport security to reduce the chances of theft or sabotage and work jointly to convert reactors to reduce the use of HEU and complete down-blending operations. Finally, the United
States and Japan are integrating response forces to dealing with theft and sabotage at nuclear facilities and are conducting a joint study on the management of HEU and plutonium in an attempt to reduce material attractiveness.

Many participants challenged the idea that nuclear terrorism is a threat. It was explained that the threat level is not only difficult to assess, but also problematic because it is a function of perceptions. Therefore, it is more important to take into account consequences if an attack occurs; it is essential that each country conduct cost-benefit analyses to inform policy.

Several participants questioned the future of the Nuclear Security Summit after 2014. While some favored a more ambitious approach to bring together the disparate elements of the nuclear security regime, others questioned its sustainability at the head-of-state level and believe that the IAEA is the natural actor to take over the process.

**Session 7: Biosecurity in the Asia-Pacific**

Edith Tria (Philippine Biosecurity Association) gave a presentation on current strategies, initiatives, and challenges to better manage biorisks. She began by explaining that the world is changing: as the processes of globalization and urbanization are increasing, the pervasiveness of science and technology is also growing. In the biological domain, there have been important threats in the region including SARS, swine influenza, and avian influenza. Numerous tools have been developed to respond to these risks, but the microbial world adapts too, becoming more resistant to anti-infective drugs and developing new antigens that counter vaccines. An average of one new infectious disease has emerged (or re-emerged) each year for the past three decades.

The spectrum of biological risk falls under the purview of both the World Health Organization and the Biological and Toxin Weapons Convention. While the former focuses on responding to natural disease outbreaks and their unintended consequences, the latter is aimed at addressing threats of vandalism, sabotage, and the deliberate use of biological agents.

In the Philippines, biorisk management integrates both biosecurity and biosafety: while biosecurity refers to ensuring the security of biological materials to prevent theft, illicit use, or deliberate release of materials, biosafety focuses on reducing exposure to an accidental release of biological materials. The national policy on biosafety and biosecurity is centered on two goals: preserve and safeguard human and animal health and the environment against accidental release or malicious use of pathogens, and ensure a safe and secure environment by adhering to international standards in the handling, use, storage, and transport of pathogens. It involves all laboratories, government or private, which handle, process, use, store, and transport select agents, pathogens, and toxins. More generally, biorisk management evolves along a spectrum consisting of assessment capabilities (i.e., risk identification, hazard/threat identification, likelihood evaluation, and consequences evaluation), mitigation (i.e., elimination or
substitution, engineering controls, and administration control), and performance (i.e., control, assurance, and improvement of systems and processes).

In 2007, the Philippines also enacted the Human Security Bill, which aims to combat terrorism. The Act aims to monitor individuals suspected of misusing dangerous biological agents and toxins, conduct legal entry into facilities and/or seizure procedures related to suspected misuse of dangerous biological agents, and monitor confidential information (i.e. inventories of highly pathogenic organisms).

There are a number of regional biosafety associations that promote biosafety, share biosafety knowledge, develop and exchange resources and guidance material, and provide training to key personnel. The main association is the Asia-Pacific Biosafety Association. It includes Australia, China, Indonesia, Japan, Malaysia, Pakistan, the Philippines, Singapore, and Thailand.

During the discussion, several participants explained that "there is something special about germs" because they unify people in a way that nuclear weapons don't. Biological weapons are of little interest to military forces because they have insidious and indiscriminate effects. The key question is whether this will remain true. Many experts argue that a terrorist attack involving a biological agent will take place in the next few years because groups not only have the intention to conduct such an attack, but increasingly the capability as a result of the development of the life sciences.

A participant stressed that it was possible to identify where many of the risks were coming from since the location of many high-risk biological laboratories is often known, provided they are registered. The key to combating biorisks is to strengthen strategic trade management, enhance material security, and raise awareness among the key stakeholders. Other participants, however, stressed that improving these processes and raising awareness are time-consuming; in the meantime, the threat is real and growing fast.

A few countries have undertaken the task of raising awareness of biorisks and have developed plans to detect, respond to, and mitigate biological threats, but numerous challenges remain to bring these programs up to speed with the rapid evolution of the life sciences. Discussing biorisk issues in a track-II forum such as CSCAP would help regional states identify the issues and move toward practical recommendations to improve policy.

Session 8: Wrap-Up, CSCAP Memoranda, and Future Plans

Carl Baker (Pacific Forum CSIS) noted that the WMD Study Group produced three memoranda: Memorandum No.17 - Promoting the Peaceful Use of Nuclear Energy (June 2011), Memorandum No.19 - Reduction and Elimination of Nuclear Weapons (February 2012), and Memorandum No.22 - Nonproliferation of Weapons of Mass Destruction (September 2012). He also mentioned Memorandum No.14 - Guidelines for
Managing Trade of Strategic Goods (March 2009), which was produced by the CSCAP Exports Control Experts Group, a sub-group of the WMD Study Group.

Baker proposed that the WMD Study Group begin work on drafting a memorandum on the implementation of UN Security Council Resolution 1540, with a specific focus on the role Asian-Pacific regional organizations, notably ASEAN, can play in the process. This memorandum could feed into track-1 processes such as the ARF and ADMM+. There was consensus among participants that the WMD Study Group should move in this direction.

Baker also explained that the WMD Study Group has a number of sub-groups of experts meetings focused on strategic trade controls, nuclear energy, and soon biosecurity. He mentioned that the CSCAP Exports Controls Experts Group met in Manila in October, and hopes to continue its activities in 2013. After this WMD Study Group meeting, there would be a meeting of the Nuclear Energy Experts Group (NEEG), a group that met several times in the late 1990s - early 2000s, and will reconvene to discuss nuclear energy development issues as well as how these issues relate to the nuclear nonproliferation, safety, and security regimes in the context of the nuclear renaissance in the Asia-Pacific. Finally, it is anticipated that a Biosecurity Experts Group (BSXG) will be launched in the spring of 2013 to discuss biorisks and their management in the Asia-Pacific region. The goal of these experts groups is to feed these findings into the WMD Study Group and, ultimately, relay them at the track-I level (to the ARF and ADMM+).
16th CSCAP WMD Study Group
Key Findings

The 16th meeting of the Study Group on Countering the Proliferation of Weapons of Mass Destruction (WMD) of the Council for Security Cooperation in the Asia-Pacific (CSCAP) was held at the Rex Hotel in Ho Chi Minh City, Vietnam on November 6-8, 2012. It brought together 39 senior participants from 17 countries from throughout the Asia-Pacific region and beyond, as well as 23 Pacific Forum CSIS Young Leaders from seven countries. The key findings of the meeting are the following:

1. While proliferation remains a serious threat, there is considerable skepticism about the prospects for enhancing the nonproliferation regime, despite some positive developments, such as the emerging P-5 dialogue process. Similarly, most participants expressed pessimism about the future of arms control between the US and Russia (notably given disagreements over missile defense) and about efforts to move toward nuclear disarmament.

2. A serious discussion on nuclear doctrine among nuclear-armed states is needed in order to enhance strategic stability and indirectly help strengthen the nonproliferation regime. Ideally, such a discussion should include not only the P-5 states, but also the NPT holdouts.

3. There is some skepticism about the prospects for the 2015 NPT Review Conference. Dialogue should be actively sought and promoted among relevant stakeholders at the regional and international levels to find solutions to common problems and reinvigorate the nonproliferation regime. There is still a divide between states over whether proliferation prevention or nuclear disarmament should be given priority.

4. Plans for increased use of nuclear energy, to include its planned introduction in Southeast Asia, have raised safety and security concerns within the region, especially in the wake of the Fukushima tragedy. The CSCAP WMD Study Group’s Nuclear Energy Experts Group (NEEG) has been reestablished to develop policy recommendations and approaches to address these concerns, including the possible establishment of a Reprocessing and Enrichment Free Zone within ASEAN or perhaps the region more broadly.

5. Prospects for the denuclearization of the Korean Peninsula remain grim. The DPRK insists on concluding a peace agreement and normalization of relations with the United States prior to moving forward on denuclearization, while the United States seeks proof of DPRK sincerity and commitment to denuclearization as a precondition to talks.

6. There are concerns that the longer the DPRK maintains its arsenal, the more likely it will be accepted by the international community as a de facto nuclear-armed state. Finding a solution to the problem is thus urgent. Track two dialogue can help promote greater awareness and address misperceptions and even suggest alternative
approaches, but solutions can only come from direct dialogue among the concerned states.

7. Counterproliferation initiatives such as the Proliferation Security Initiative (PSI) and the Global Initiative to Combat Nuclear Terrorism (GICNT) have gained traction over the years. However, some states worry about adherence to international law despite stated principles to the contrary; more needs to be done to strengthen international protocols to address nuclear terrorism concerns.

8. Ad hoc initiatives tend to be more easily adopted when their goal is to help build capacity and provide assistance to combat proliferation. Accordingly, the GICNT has more diverse, even if fewer, participants than PSI. More transparency over PSI activities could help enhance its acceptance as a legitimate tool to combat proliferation.

9. There is also confusion over what constitutes nonproliferation and counterproliferation and how the two concepts interrelate to one another.

10. The CTBT should enter into force as soon as possible. However, ratification by the remaining Annex 2 holdout states seems unlikely due to domestic politics (in the case of the US), mistrust (in the case of China), and complex regional crises (in the cases of Egypt, India, Israel, North Korea, and Pakistan). Indonesia's recent ratification of the CTBT stands as an example. An active regional campaign to raise awareness about the Treaty could help nudge holdouts toward ratification.

11. There is confusion and sometimes misunderstanding over the goals, objectives, and functions of nuclear safe-guards, as well as over how the various types of safeguards complement one another. While adherence to nuclear safeguards has grown in the Asia-Pacific region, numerous states have yet to adopt the Additional Protocol. Participants disagreed over the benefits (and acceptability) of making the adoption of the Additional Protocol a condition of nuclear fuel supply.

12. A number of regional initiatives, such as ASEANTOM or the Asia Nuclear Safety Network, are emerging to serve as forums where states will be able to share best practices on how to manage nuclear programs. What contribution these initiatives will make toward effectively enhancing regional cooperation remains unclear, however.

13. All participants recognized that a nuclear terrorist attack would be catastrophic well beyond the location where it is taking place. Many question the odds of such an attack occurring in the foreseeable future, however. The level of priority given by regional states to nuclear security thus varies greatly.

14. Many question the future of the Nuclear Security Summit (NSS) beyond the 2014 Summit. While some favor a more ambitious approach to bring together the disparate elements of the nuclear security regime, others question its sustainability at the head of state level and believe that the IAEA is the natural actor to take over the process.
15. Biosafety and biosecurity issues are increasingly coming to the forefront of the regional security agenda but few are familiar with the issues at hand, let alone how to address them.

16. A few countries have conducted efforts to raise awareness of biorisks as well as developed plans to detect, response, and mitigate biological problems, but numerous challenges remain to bring these programs up to speed with the rapid evolution of the life sciences. Discussing biorisk issues in a track-II forum such as CSCAP would help regional states identify the issues and move toward practical recommendations to improve policy.

17. The CSCAP WMD Study Group and its associated experts groups will continue to work closely with the ASEAN Regional Forum’s InterSessional Meeting on Nonproliferation and Disarmament (ARF ISM/NPD) as it focuses on the three NPT pillars (disarmament, nonproliferation, and peaceful use), especially as regards UN Security Council Resolution 1540 implementation, nuclear security and safety, and promotion of the CTBT’s verification regime, as well as biosecurity. Future CSCAP Memorandum topics may include implementation of UN Security Council Resolution 1540 and a deeper examination of policy recommendations contained in previous Memos.

For more information, please contact CSCAP WMD Study Group co-chairs Ralph Cossa [RACPacForum@cs.com] or Nguyen Hung Son [nguyenhunson2005@yahoo.com]. These findings reflect the view of the seminar chairmen; this is not a consensus document. A full summary of the workshop proceedings is being prepared and will be available upon request shortly.