



**14<sup>th</sup> Meeting of the Council on Security Cooperation in the Asia Pacific (CSCAP)**  
**Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific**  
**Hanoi, Vietnam, Nov. 18-19, 2011**  
**Chairman's Report**

The 14th meeting of the CSCAP Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific was held in Hanoi, Vietnam, Nov. 18-19, 2011. Nearly 50 experts, government officials, and Pacific Forum CSIS Young Leaders from over 20 countries and international organizations attended (all in their private capacities).

In the absence of Ralph Cossa and Nguyen Hung Son, Carl Baker (USCSCAP) and Ta Minh Tuan (CSCAP Vietnam) served as co-chairs. During his introductory remarks, Baker noted that several of the Pacific Forum's Young Leaders attending were part of the first group of Nonproliferation and Disarmament Fellows, established to promote expertise among the next generation of scholars, security specialists, and officials. Details about the Young Leaders program are on the Forum's web site ([www.pacforum.org](http://www.pacforum.org)). Participants were encouraged to help identify next-generation specialists who would benefit from involvement in this program.

Our first session addressed *recent developments in the global nonproliferation regime* (GNR). Carl Baker (USCSCAP) offered a brief summary of events that have influenced the nonproliferation regime since the group last met in February, including the meetings of the First Committee of the Conference on Disarmament (CD) and the Permanent Five (P5) meeting. There had been hope for progress on negotiations on the Fissile Materials Cutoff Treaty (FMCT) after last year's agreement on a new statement of work in the CD, however objections to the role of the Shannon Mandate as the basis for a treaty remained and little progress was achieved. While there was discussion at the CD on removing the requirement for consensus on procedural matters and adding the requirement for stated rationale for opposition on substantive matters, there was no resolution to either issue. At the P5 meeting, which was held in Paris in late June, the group expressed concern about notifications of withdrawal from the NPT, confirmed member support for the testing moratorium, endorsed universal ratification of the Comprehensive Test Ban Treaty (CTBT), and promoted the opening of negotiations for the FMCT, albeit only under the auspices of the CD. The group also welcomed steps by the US, Russia, and the UK in promoting the Middle East Nuclear Weapon Free Zone. Baker also provided a summary of the IAEA report on Iran, which noted activities suggesting that Iran was pursuing a nuclear weapon program. While there was little news regarding implementation of the New START, there is a general expectation that it will lead to future arms control talks.

Li Genxin, (*Provisional Comprehensive Test Ban Treaty Office*), gave a presentation on national implementation measures for the CTBT. He highlighted the need for national legislation as part of the process, suggesting that one way to promote better understanding of the requirement was to conduct a pilot workshop on implementing

legislation in Southeast Asia. Other aspects of implementation included the development of specific agreements for monitoring facilities located in the region and gaining stronger support for the treaty among countries in the region. He argued that the CTBTO's extensive monitoring system could serve as a valuable confidence building measure that would promote transparency and enhance the nonproliferation regime.

The initial discussion following the presentations focused largely on developments in Iran. There were key themes and currents. First, the level of detail offered in the IAEA report was unprecedented. While the detail helps solidify the case for UN Security Council action in response, it also reflects the use of intelligence sources which could be problematic for the IAEA's credibility as an independent agency. Similarly, some of the findings were based on assessments by non-expert observers, which compounds the credibility issue. Second, some felt that the Iran case was primarily influenced by power dynamics in the Middle East while others felt that it was embedded in the tension between those who argue for the right to peaceful use of nuclear energy and those whose primary concern is nonproliferation. An underlying concern is that other states are watching developments closely and would react based on the outcome of the current confrontation over the Iran program. In this context, several participants noted that it would be difficult for the UNSC to respond because there was a lack of consensus among its members. Care must be taken to avoid pushing Iran to the point that it would withdraw from the NPT. Others argued that it would be difficult to take action unless Iran attempted to test a nuclear device. For some that was a "red line," while for others it would serve as a basis for a multilateral response.

The future of arms control beyond the New Strategic Arms Reduction Treaty (START) was also raised. One argument presented was that the bilateral efforts by the US and Russia would have to be joined by the other nuclear weapon states, especially China, if we are to see further reductions in nuclear arsenals. Other views expressed were that future talks would have to address the issue of tactical nuclear weapons and missile defense if progress is to be realized in the near-term. In response to the more general suggestion that arms control should be multilateralized (as opposed to identifying only China), a counter argument was that the US and Russia would have to shift focus to include the destruction of weapons rather than disabling them, as they have done under the START process. Similarly, others argued that focusing on numbers would become increasingly difficult; instead emphasis should shift to operational or doctrinal issues.

In session 2, the group turned to **the role of the UN Security Council resolutions in promoting nonproliferation** in Asia. Other topics included changes in the Nuclear Suppliers Group trade rules for uranium enrichment and fuel processing technology and the upcoming Nuclear Security Summit in Seoul. Xue Xiaodong, (*Member, Panel of Experts established pursuant to UNSC Resolution 1874*) began by arguing that nonproliferation was a long-term process that required both persuasive (trade controls, treaties, incentives, diplomatic pressure) and coercive (sanctions, interdiction, missile defense, military action) methods to control supply and reduce demand among those aspiring to develop a nuclear weapon capability. With specific reference to UNSC Resolutions 1718 and 1874, which target the DPRK, Xue noted that UN member states

are obliged to prevent the transfer of most military equipment, WMD-related materials, and luxury goods to and from the DPRK. In addition, member states are required to inspect, seize, and dispose of these materials, if discovered; build capacity to improve implementation of the resolutions; and provide timely reports on these activities to the UNSC. The panel of experts, with its mandate recently extended to June 11, 2012, is responsible for gathering and analyzing information provided by member states and making recommendations to the UNSC for improving the implementation process.

Difficulties encountered in implementing the resolutions included the lack in some member states of strong controls on the trade of strategic goods, a lack of resources for preparing the required reports, a lack of a common definition of “luxury goods,” difficulty in obtaining intelligence, and the lack of compensation for investigations. In response, the panel of experts has intensified its outreach to member states, sought to improve coordination among UNSC panels of experts, and encouraged stronger controls on the trade of strategic goods. Xue concluded by noting that while sanctions can be an effective nonproliferation measure, they ultimately buy time to find a diplomatic solution to the problem of states seeking to acquire a WMD capability.

Tom Wuchte (*1540 Coordinator, US State Department*) next offered his views on the implementation of UNSCR 1540, with specific emphasis on the implications of the recent 10-year extension of the committee’s mandate under UNSCR 1977. Noting that many governments and non-governmental organizations were working hard to implement the resolution, the overall assessment of its effectiveness within the nonproliferation community has been positive. Meanwhile, there are additional collaborative efforts to promote better implementation being planned in several regions including Asia. While there is general acceptance of the intent behind the resolution, a major challenge has been to translate its words into transparent action. One way to accomplish that task is for the UNSCR 1540 Committee to conduct country visits, the first of which was recently completed in the US. However, since the Committee is comprised of only eight experts, more collaborative efforts by states, regional organizations, and others to promote action-oriented initiatives are needed to promote effective implementation. One of the major aspects of the new mandate under UNSCR 1977 has been an increased emphasis on the role of regional organizations in helping individual countries implement the provisions of UNSCR 1540 through collaborative outreach efforts and appointing coordinators to complement the committee’s activities and to promote information sharing.

Wuchte also discussed recent initiatives undertaken by the US in promoting UNSCR 1540, including the development of an implementation plan and hosting a country visit by the UNSCR 1540 Committee. The primary focus of the effort has been interagency actions that could be taken to further promote nonproliferation efforts and build capacity through regional organizations and bilateral assistance programs. He anticipated that the US plan would be modified based on the feedback provided during the recent country visit and he acknowledged that while the US was eager to provide assistance to other countries, it also recognized that each country has a unique set of priorities. Wuchte felt that country visits would become a critical element of the implementation process and that regional organizations would play an increasingly important role in providing

assistance to member states and matching assistance providers with those seeking assistance in implementing the provisions of the resolution.

The moderator opened the discussion by outlining the recent action by the Nuclear Suppliers Group to clarify its trade rules on uranium enrichment and spent fuel technology. The new rules require any recipient of the technology to be a party in full compliance with the Nuclear Nonproliferation Treaty, have in place and not be cited for violation of International Atomic Energy Agency comprehensive safeguards (not including the Additional Protocol), have provided information on its export control program as required by the operative paragraphs of UNSCR 1540, and in adherence with nuclear safety norms. Some observers worry that these rules would create increased tension between members of the NSG and those seeking the technology.

Discussion on the upcoming Nuclear Security Summit in Seoul centered on the anticipated agenda, which will likely include a review of the progress being made on the commitment at the Washington Nuclear Summit in 2010 to secure all fissile material within four years, an examination of the prospect for gaining better control over radiological material, and, in the aftermath of the Fukushima incident, an examination of the nexus between nuclear security and safety. It is also anticipated that the Seoul Summit will result in a further commitment to a third summit in 2014, with some arguing for the institutionalization of nuclear security governance by a permanent multilateral organization rather than through these high visibility, but low productivity summits.

In discussing the role of regional organizations in promoting UNSCR 1540, ideas offered were to help facilitate common understanding and cooperation, and to aggregate member states' requests for assistance. These measures could be implemented through workshops, developing common curriculum for Customs and border security officials, and training programs for implementing the resolution. It was also noted that despite the general perception that not enough was being done to support export controls and UNSCR 1540 implementation in Southeast Asia, there had been considerable progress over the past several years. This includes several workshops, the introduction of nonproliferation to the agendas for both ASEAN and the ASEAN Regional Forum Senior Officials Meetings, and the development of national legislation in two countries (Singapore and Malaysia) to control trade of strategic goods. While it seems like progress has been slow in Asia, there is a growing recognition that all states have a stake in promoting nonproliferation and that the momentum for further implementation of effective controls is growing. However, work remains especially in the gaining the confidence and support of private industry and in promoting regional-level cooperation in promoting compliance with UNSCR 1540.

The next three sessions were devoted to **the disaster at the Fukushima Daichi Nuclear Power Facility following the March 11 earthquake and tsunami, its implications for nuclear security, safety and safeguards, and its impact on nuclear energy policy** in Japan and the region. While there were three separate sessions, they are consolidated into a single recapitulation as the themes were closely related and the same issues were raised in the three discussions.

Tadahiro Katsuya (*CSCAP Japan/Meiji University*) outlined the sequence of events that caused the malfunctioning of the facility on the day of the tsunami, the extent of contamination in the surrounding area, the emergency response actions taken by the local and national officials, and the public reactions to the incident. Acknowledging that the incident is still being investigated, Katsuya noted that the plant operator (TEPCO) has concluded that the primary cause of the incident was the loss of cooling water and not an uncontrolled nuclear reaction as was the case in the Chernobyl incident. It is estimated that the plant will reach a cold shutdown by yearend, but it will be nearly 30 years before it can be completely decommissioned. Significantly, the lack of unified or consistent information about the level of contamination has created a great deal of public concern regarding the risks associated with nuclear power and will likely lead to shutdown of all nuclear power facilities in Japan as they go into their periodic inspection because restarting them would require safety certification with public consent that they are sufficiently earthquake and tsunami resistant. Given the lack of confidence, this seems unlikely any time in the near future.

Robert Finch (*USCSCAP/Sandia Laboratories*) followed with a more detailed explanation of the sequence of events within the reactor that caused the meltdown of the equipment and the physical property changes that occurred as the water evaporated and the containment vessels were damaged.

Li Genxin (*Preparatory Commission for the Comprehensive Test Ban Treaty Organization*) explained the role of the CTBTO's international monitoring system (IMS), which was able to detect the earthquake, tsunami, and explosion at the Fukushima facility as well as track the diffusion of radioactive isotopes and noble gases that were emitted. The incident was a stress test for the IMS, which was found to be invaluable since it was able to provide timely information regarding the spread of contamination from the site and provided transparent and unbiased information to all countries supporting the system.

With that basic understanding of events associated with the incident, Jorshan Choi (*Berkeley Nuclear Research Center*) offered his views on the impact the Fukushima disaster has had on thinking about nuclear energy safety and security. Describing the incident as a "game-changing" event in that the damage went beyond existing design standards, Choi noted that while there has been considerable debate in Japan and the region regarding nuclear safety, it is too early to tell if it will have a long-term impact on the pursuit of nuclear energy to meet future needs. He noted that while the incident highlighted safety and security concerns that will likely lead to a serious evaluation of both, it will be difficult to harmonize these aspects of nuclear energy use because they are driven by fundamentally different factors. While safety culture requires openness and transparency, security culture favors confidentiality due to the perception of vulnerability. He concluded by noting that the accident also created a unique safeguards concern because the damaged reactor facility contained fissile materials, which must be accounted for under provisions of the IAEA Comprehensive Safeguards standards. This will require a fresh look at the interface between security and safeguards as well as a better understanding of the nexus between safety and security.

Zhao Qinghai (*CSCAP China/Tsinghua University*) summarized the status of nuclear power utilization in China, noting that there are 13 active reactors with 27 more under construction. The target amount of energy to be generated by nuclear energy by 2020 remains 80GWe, although it is likely that the pace of development will slow as lessons learned from Fukushima are incorporated into future designs. Nevertheless, China remains fully committed to extensive use of nuclear energy even as it has mandated a safety review at all nuclear facilities, including those under construction. From Zhao's perspective, the major lesson learned from Fukushima is the need for improving the safety culture in society and enhancing the regulatory framework by adding capacity and ensuring it is integrated into the international safety and safeguards framework.

Chen-Dong Tso (*Chinese Taipei CSCAP/Taiwan University*) provided a review of actions taken in Taiwan in response to the Fukushima incident. Noting that the Fukushima incident had not deterred the commitment to utilizing nuclear power in the future, an immediate action was to add backup power and cooling capacity at the plants that use the same technology as Fukushima. Due to the proximity of Taiwan to Japan, safety precautions were taken to monitor radiation levels in surrounding waters and all ports of entry. In the mid-term, safety measures are being reviewed and plans are being developed to ensure adequate capacity is available to respond to an incident at any of the island's nuclear power facilities. In addition, given the proximity to Taiwan of many of the nuclear reactors in Mainland China, an agreement between the Straits Exchange Foundation (SEF) and the Association for Relations Across the Taiwan Straits (ARATS) aimed at improving cross-strait exchange of information on nuclear power safety and establishing an accident reporting and liaison mechanism has been signed.

In his presentation on the impact of Fukushima on Vietnam's plans for building nuclear energy capacity, Hoang Ahn Tuan (*CSCAP Vietnam/Vietnam Nuclear Regulatory Agency*) noted that the government was proceeding with plans to build its initial nuclear power facility. While recognizing the need for careful evaluation of safety features at the facility, Hoang noted that there was much less risk of core damage in newer designs than at facilities using older technology as was used at the Fukushima facility. He concluded by noting that Vietnam was working closely with the IAEA to ensure all safety measures are adequately addressed and that it was placing increased emphasis on ensuring human resource requirements were met as they proceed.

Brad Glosserman (*USCSCAP/Pacific Forum*) provided a broad perspective on the implications of Fukushima for nuclear energy policy in Japan and the wider East Asia region. He began by noting that prior to the Fukushima incident Japan was projected to use nuclear power to generate nearly 50 percent of its electricity demand by 2017. Although the initial reaction in Japan was to remain committed to nuclear power generation, by October 2011 the government indicated it was prepared to significantly reduce reliance on nuclear power and had only 11 of its 54 reactors still operating in late November. Meanwhile, public opinion had shifted to reflect less enthusiasm for continued use of the technology in the country amid concern for a lack of safety culture in the industry and broad recollection of past incidents that created additional concern

among the public. Despite this shift, current indications suggest that Japan remains committed to exporting nuclear reactor technology.

On a more positive note, Glosserman argued that the experience gained in responding to the incident could be used by Japan to demonstrate regional leadership in several areas including energy security, development of a more effective nuclear safety regime, increased awareness of security concerns, and improved emergency response procedures. Fundamental questions that still need to be addressed include how Japan will maintain energy security in an environment of reduced reliance on nuclear power generation, how it will restore public confidence in its regulatory system, and how it will deal with worst-case disaster scenarios.

One recurrent theme that emerged in the discussion was that despite the safety concerns expressed regarding the Fukushima incident, no country in Asia that was previously committed to pursuing nuclear energy has abandoned those plans. However, there has been reconsideration regarding the long-term costs associated with nuclear technology as the incident is likely to drive up initial costs of building nuclear facilities and require a stronger regulatory framework. The incident also calls into the question the notion that nuclear technology is environmentally friendly given the fact that the Fukushima incident exposed its back-end waste problem. The old issue of liability for accidents has also been resurrected.

Other discussion focused on the fact that the Fukushima incident highlighted the vulnerability of nuclear facilities to high impact/low probability events that must be included in the design of future facilities. Both the US and Russia have incorporated these considerations into their design requirements. However, there remains a tension between safety and security culture that will make it difficult to create synergies between these aspects of nuclear technology. Discussion ended with a reminder that while the Fukushima incident has drawn a lot of attention around the world, the WMD Study Group focuses on countering proliferation and examining ways to encourage nonproliferation through compliance with the global nonproliferation treaty. While there is no easy way to reconcile the demand for energy with the need for nuclear safety and security, it is important for the group to understand the implications of the increased interest in nuclear energy and incidents like the Fukushima incident for sustaining the nonproliferation regime in the region.

In the sixth session, the group focused on **denuclearization of the Korean Peninsula**. Yang Yi (*CSCAP China/China Institute of International Studies*) began by noting that although tensions on the Korean Peninsula eased in recent months, the situation remains complicated. The pace of the DPRK's diplomatic activity had increased with Kim Jong Il visiting China four times since May 2010 and visiting Russia in 2011. It was also encouraging that the DPRK and the ROK met at the ASEAN Regional Forum in July and the US and DPRK had interacted twice in recent months. However, upcoming elections and changes in leaderships in several countries in the region coupled with the stalemate regarding conditions or so-called "pre-steps" for restarting the Six-Party Talks meant that a significant policy shift in the coming months seemed unlikely. The primary focus for

the DPRK has been on improving the livelihood of North Korean people as part of its program to become a “great and prosperous country” in 2012 as was seen in Kim Jong Il’s recent visits to China and Russia where the focus in both cases was on promoting investment opportunities and economic development. Meanwhile, China remains committed to promoting peace and stability and believes this can best be achieved through the Six-Party Talks, which remains an important forum for dialogue and promoting implementation of the principles laid out in the September 2005 Joint Statement.

Ohm Tae-am, (*CSCAP Korea/Korea Institute for Defense Analyses*) began by noting that there had been a flurry Six-Party Talks-related activity in recent months (by his count at least 20 noteworthy activities), but the ROK government position remained little changed: it continued to insist on “pre-steps” before any resumption of the talks. These included a DPRK pledge to not conduct another attack on the ROK, uphold its obligations under the September 2005 Joint Statement regarding denuclearization, freeze all activities at Yongbyon, freeze all uranium enrichment activities, and continue adhering to its moratorium on missile and nuclear testing.

While holding out hope that these preconditions might be met and lead to a resumption of dialogue among the six parties, Ohm was skeptical that the Six-Party Talks would be successful. This pessimism was attributed to what he described as the DPRK’s long-term commitment to acquiring a nuclear capability, including a new reactor at the Yongbyon facility. Therefore, we should recognize that the value of the Six-Party Talks is limited to serving as a dialogue mechanism, but is unlikely to denuclearize the peninsula. Instead, Ohm argued that a better alternative is available as the ROK is prepared to provide massive assistance if the DPRK would change its behavior and “offer an authentic response” to that offer of assistance.

Ri Myung Hak (*CSCAP DPR Korea/Institute for Disarmament and Peace*) expressed his view that increased diplomatic activity between the DPRK and the US has helped deepen mutual understanding and will continue to build confidence and acknowledged the role of Russia and China in working to create a more favorable atmosphere for peace on the Korean Peninsula. The DPRK seeks an early resumption of the Six-Party Talks based on the September 2005 Joint Statement as this was the only framework to achieve denuclearization of the peninsula in a comprehensive and balanced manner. However, since the root cause of the problem is the US nuclear threat and hostile policy toward the DPRK, the ideal solution is through US-DPRK dialogue – the Six-Party Talks provides the atmosphere of confidence and offers a venue for frank bilateral discussion. The main point of the September 2005 Joint Statement is that it is based on the principles of peaceful resolution, mutual respect, and equality.

Ri argued that the DPRK has consistently sought to show its good intentions and has not produced any plutonium since 2008 in the interest of fulfilling the behest of Kim Il Sung to achieve denuclearization on the peninsula. From his perspective, US insincerity led to the 2008 breakdown in the Six-Party Talks as it implemented sanctions, made military threats, and denied the DPRK its right to launch a satellite. Yet, the DPRK was willing to



return to the talks without preconditions to show its commitment to denuclearization. Ri concluded by outlining his perception of the way forward:

- resume the Six-Party Talks without any precondition;
- all parties must act together since having one party dictate the process will lead to mistrust and raise doubts about sincerity;
- accept that the September 2005 Joint Statement calls for denuclearization of the Korean Peninsula and that as long as the ROK is “protected by the US nuclear umbrella,” the peninsula cannot be considered denuclearized; and
- accept that the main reason for hostility on the peninsula is lack of an institutional mechanism to prevent war and institutionalize peace – this makes a peace treaty a critical prerequisite for progress.

The moderator opened the discussion by noting that each of the speakers highlighted the importance of the September 2005 Joint Statement in framing expectations about future security relations on the Korean Peninsula. He noted that the five key principles contained in the document include the denuclearization of the peninsula, mutual diplomatic recognition and respect for the UN Charter, regional economic development and cooperation, the establishment of a peace regime (not necessarily a treaty) to move beyond the Korean Armistice Agreement, and the need for simultaneous action by all parties. Since 2005, it has become apparent that different parties seem to be placing emphasis on different principles articulated in the Joint Statement and that has created mistrust and uncertainty regarding others’ intentions.

This was followed by an exchange of views between two participants regarding the basis for the current impasse. On the one hand, it was argued that the breakdown in the Six-Party Talks occurred in 2008 after the DPRK launched a missile in violation of UNSCR 1718, which was followed by a series of other actions including a second nuclear weapon test, the revelation of its uranium enrichment program, and unprovoked attacks on the ROK. Based on this assessment, the US and ROK now are calling for a series of “pre-steps” they would like to see from the DPRK before returning to the Six-Party Talks. These include a reaffirmation of the DPRK’s support for the denuclearization pledge made in the September 2005 Joint Statement, a freeze on all activities at its Yongbyon facility, a freeze and international inspection of its uranium enrichment facility, a moratorium on nuclear and missile test, and a pledge not to attack the ROK again. These guarantees were characterized as being necessary to return the situation to where it was when the Six-Party Talks broke down in 2008 – in the parlance of the interlocutor, to prevent the US from having to “pay again for old agreements.”

In response, it was argued that since everyone agreed that the September 2005 Joint Statement was a satisfactory baseline for all parties, we should begin by examining why the Six-Party Talks have failed despite common agreement on the principles. From this perspective, the breakdown occurred due to the provocative actions taken by the US. Its

economic sanctions (a specific reference to Banco Delta Asia) and additional UNSC sanctions following the DPRK's satellite launch led to the conclusion that despite promises made in the Joint Statement, the US was actually trying to "stifle, pressure, and seek the collapse" of the DPRK. Therefore, the DPRK was compelled to conduct the second nuclear test and pursue uranium enrichment to send a signal that it would not be intimidated by pressure and as a means of ensuring self-preservation. In this context, the "grand bargain" described in the earlier presentation reflects a misunderstanding of the DPRK's pursuit of nuclear capability. It is not to "earn foreign currency or aid, but to protect its sovereignty" – to avoid becoming like Iraq and Libya. The only way for the DPRK to achieve economic prosperity is to create an environment of peace on the peninsula and the region.

It was apparent that most participants felt that the September 2005 Joint Statement remains the fundamental basis for a solution to denuclearizing the Korean Peninsula, although some felt the talks could not proceed until the status of the DPRK as a self-declared nuclear-weapon state was reversed. Other unresolved issues include the US extended deterrence in the region and the potential for additional military confrontation between North and South Korea in disputed areas. Nevertheless, as one discussant phrased it, if we are to find a peaceful solution, it must be "balanced and comprehensive and implemented simultaneously."

Attention shifted in the seventh session to **Biosecurity and the Biological Weapons Convention Review Conference**. In an effort to expand the group's understanding of the key issues associated with the Biological Weapons Convention (BWC) and the concern in the biological science community regarding safety and security, the presentations focused on the agenda of the upcoming review conference (RevCon) and alternative approaches to promoting security in biological research laboratories.

Masamichi Minehata (*Pacific Forum CSIS Sasakawa Peace Foundation Fellow*) began by offering his views on how the threat perception has shifted and how that has influenced thinking within the community of experts in biological research both in terms of expectations from the Biological Weapons Convention and the inter-sessional review process. While the focus in the late 1990s was on state-level weapons programs and compliance with the BWC, the primary concern shifted to non-state actors (terrorists and criminals) and national measures to ensure surveillance of laboratories and oversight of public health in the mid-2000s. In the late 2000s, the community has seen a further shift in focus to an "all hazards approach," encompassing manmade and natural threats as well as laboratory safety. This has led to a growing recognition that the most effective response is close collaboration among a wide range of institutions including the UN Security Council Resolution 1540 Committee, along with national and international criminal and public health organizations and agencies and professional associations of biological researchers. Accordingly, there has been a shift in focus toward capacity building and education as the most effective responses in addressing the concerns of biosecurity and biosafety.

The changing threat perception has made it particularly difficult to reach consensus on the role of verification and ensuring compliance with the BWC. It also will be the basis for the upcoming review conference where the focus will be on seeking universalization of the BWC, an examination of national measures (laboratory safety/security and education) and the role of science and technology for building confidence, and efforts to promote international cooperation as means to ensure compliance with the provisions of the BWC.

Naoko Noro (*CSCAP Japan/Pacific Forum Young Leader*) followed with a more in-depth look at the efforts underway in the Asia-Pacific region to improve biological risk management. She argued that the risk of a biological incident ranged from a naturally occurring pandemic to an accidental release of a pathogen to an intentional act by either a non-state or rogue state actor. A balance between biosafety and biosecurity is needed to minimize the risks associated with this spectrum of threats from naturally occurring to deliberate misuse of dangerous pathogens.

The primary response mechanisms to build confidence in Southeast Asia have been cross-agency cooperation and coordination at the government level and cross-disciplinary cooperation at the professional level. These biosafety and biosecurity associations perform several functions within the professional community as they:

- serve as forums for discussion and sharing best practices
- develop infrastructure support with manuals, regulations and guidelines
- build human resource capacity through training and seminars
- forge networks among national, regional and international stakeholders

In addition to the creation of professional associations to promote better safety, there have also been ASEAN Regional Forum Workshops on biosecurity in the past several years. These workshops have served as forums for discussing best practices and biosecurity risk management among a wide range of stakeholders from around the region.

While all of these efforts and building confidence are important, there remain a number of challenges including a lack of experts on the topics of biosecurity and biosafety, incomplete guidelines, lack of funding, and difficulties associated with addressing the wide range of threats and the dual-use nature of much of the technology involved. The key tools that need to be developed to address these challenges are primarily found in the areas of education, improved export control regulation, increased funding, and better administrative regulations to govern bioresearch laboratories. In addition, there are other initiatives underway within the biological research community including a range of online tools to promote better understanding of biosecurity and biosafety in laboratories and among public health officials.

Commentary during the discussion centered on the viability of self-governance within the biological research community and the relationship between biosecurity and biosafety. Efforts by the research community to develop a peer review process to preclude the release of sensitive information coupled with the formation of biosafety and biosecurity associations suggest that there is growing confidence that much of the lower end of the threat spectrum can be addressed through self-governance. There was less confidence that lab safety measures would be adequate to address threats at the higher end of the spectrum involving malevolent manmade acts, especially when considering the potential threat from individual action outside the control of major laboratories and the rapidly expanding number of laboratories in the region.

A related concern raised was that because biosecurity and biosafety fall largely outside the realm of foreign affairs and defense, it is difficult to integrate them into the more traditional concerns addressed by these organizations. In fact, much of the work in biosecurity and biosafety is centered on the laboratories and among public health officials. However, there is also an important nexus with the more traditional security organizations in that there is a need for national-level action to ensure controls are established for the export of sensitive technologies and materials. This is particularly manifested in the reporting requirements included under UNSCR 1540. In addition, while biosafety in the laboratory can mitigate much of the risk, at some point there needs to be open recognition of the need to promote biosecurity through national and regional-level initiatives to prevent illicit transfer of materials. This requires careful licensing and enforcement mechanism and adherence to the export control regime outlined by the Australia Group.

In Session 8, Carl Baker (*USCSCAP*) provided *an update on the CSCAP Memorandums* that the study group has been working on. The Memorandum on Promoting the Peaceful Use of Nuclear Energy has been published as CSCAP Memorandum No. 17 and is available on the CSCAP website at (<http://www.cscap.org/index.php?page=cscap-memoranda>). The Memorandum on Disarmament has been sent to member committees for final review with comments due by Jan. 15, 2012. The initial draft of the Memorandum on Nonproliferation was distributed to participants and several provided comments. Baker asked that all additional comments be submitted by Dec. 15. The draft will then be re-circulated to study group members and will hopefully be ready for distribution before the next study group meeting.

Session 9 was a *wrap up session* to provide participants the opportunity to offer suggestions for future topics to be addressed by the group. Suggestions included ways to make the group more effective by developing sub-groups as well as offering topics that could be addressed by the study group itself.

Several suggestions were made to convene experts groups on specific topics. The sub-groups would probe specific areas in greater depth and then report their findings and introduce the policy implications for further discussion with the participants of the WMD Study Group. One suggestion was to hold workshops in Southeast Asia to promote national implementation measures for the Comprehensive Test Ban Treaty. These

workshops would promote better understanding among states in the region regarding the legislative and logistical measures needed to fully implement the CTBT International Monitoring System. Another suggestion was to initiate a Biosecurity Experts Group, which would focus on issues such as confidence building, multilateral initiatives in disease detection and biosurveillance, and biological risk assessments. A third suggestion was to restart the Nuclear Energy Experts Group. This group would focus on promoting a better understanding of the nexus between nuclear safety and security, sharing best practices in effective management of the nuclear fuel cycle to reduce the likelihood of proliferation, and a better understanding of the role of strategic communication and crisis management in response to nuclear incidents. A final suggestion was to continue the activity of the CSCAP Export Control Experts Group. It would focus on how to improve national application of the major export control regimes, share information and promote better understanding of the legislative and regulatory requirements associated with an effective export control program, explore ways to provide better control of dual-use and other sensitive technologies, and promote regional implementation of the export control regime through multilateral organizations.

Suggestions were also offered for discussion topics within the WMD Study Group itself. Ideas put forward included investigation into the role of extended deterrence, missile defense, substitution of conventional capability, and delivery systems in promoting or discouraging disarmament. Other suggestions focused on more general issues related to disarmament: alternative pathways to disarmament, the prospects for a Nuclear Weapon Convention, the post-nuclear world security order, and revitalizing the Conference on Disarmament. Other ideas suggested were to examine the status of and promote more effective national implementation of UNSCR 1540 and the role of nonstate actors in nonproliferation and disarmament.

The meeting concluded with the co-chairs reminding the group that the next meeting would be held in Sydney on March 5-7, 2012 in conjunction with the ARF Inter-Sessional Meeting on Nonproliferation and Disarmament.

*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.*