

Groping for Cooperative Space Activities in the Northeast Asia

동북아시아에서의 우주협력의 모색

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Introduction

Despite the cause of international cooperation, Northeast Asian countries have not as yet tapped much from the wisdom in cooperative space activities developed elsewhere.¹⁾ China and Japan have rather respectively been active in organizing separate programs based on the data acquired through their own separate space activities. South Korea is still gearing up to become an independent space power, jammed in between the two competing giants. North Korean missile and nuclear tests have aggravated tension in the region, which has in turn hampered international cooperation. The tension over the Korean peninsula, which originated from the conflicts of the power politics,²⁾ has resulted by-products of poor cooperation not only in security and space activities but also human rights, environment, and other possible common goods that could be achieved through regional economic integration. The purpose of this paper is to suggest to tackle the problem of poor cooperation in space activities, by re-examining the nature of the competitive political environment, and by building up a normative overarching framework, as has been successfully applied in the Helsinki process in Europe.

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- 1) Northeast Asian countries in this paper mean China, Japan and the two Koreas. Russia, though it is bordered with China and North Korea, has been excluded since it has been usually treated as one of the Eastern European countries.
 - 2) The Korean Conflict (1950-53) came to an end by concluding an armistice agreement on July 27, 1953 at Panmoonjom. Agreement Between the Commander-in-chief, United Nations Command, on the One Hand, and the Supreme Commander of the Korean People's Army and the Commander of the Chinese People's Volunteers, on the Other Hand, Concerning a Military Armistice in Korea, (July 27, 1953). U.S. Department of State, Bulletin, vol. 29, (1953), pp. 132-140.

I. Limited Cooperation in Space Activities in Northeast Asia

1. Aspects of Regional Cooperation

Through international cooperation, participants in the space activities can receive benefits out of abridging costs and increasing synergy effects. International cooperation is also vitally important in times of a disaster or an accident. It works also significantly in preserving environment and human rights. Win-win effects that states would benefit out of international cooperation will eventually build up bases for international peace and security,³⁾ which is vitally need in the Northeast Asia, where the remnants of the Cold War still haunt.

That is why the Outer Space Treaty⁴⁾ provided international cooperation twice in the preamble,⁵⁾ and articulated its significance in five articles thereafter.⁶⁾ The major concern is that "the exploration and use of outer space ... shall be carried out for the benefit and interest of all countries," and that States shall facilitate and encourage international cooperation in [scientific] investigation,⁷⁾ "in accordance with international law, including the Charter of

3) International cooperation, due to the massive investment for the complex mechanical system composed of myriad components along with cutting edge technology, that could be better provided through cooperative competition, and due to the potential of danger to environmental harm at the time of an accident.

4) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, UN Doc. General Assembly Resolution 2222 (XXI), annex, adopted on December 19, 1966, entered into force on October 10, 1967. Hereinafter Outer Space Treaty.

5) It is stipulated in two places, "[d]esiring to contribute to broad international cooperation in the scientific as well as legal aspects of the exploration and use of outer space for peaceful purposes," and "[b]elieving that such cooperation will contribute to the development of mutual understanding and to the strengthening of friendly relations between States and people." Id.

6) Namely, Articles I, III, IX, X, XI. Id.

7) Article I. Id.

the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding."⁸⁾

International cooperation is one of the basic norms of international law. The UN General Assembly designated it as one of the seven basic principles which would require progressive development and codification in the Declaration on Principles of International Law Concerning Friendly Relations and Cooperation Among States in Accordance with the Charter of the United Nations in 1970.⁹⁾ It emphatically stated the duty of states to cooperate with one another in accordance with the Charter, wherein it had already designated international cooperation as one of the four purposes of the United Nations to be achieved "in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedom for all."¹⁰⁾ Indeed it is not only a designated purpose to be achieved, but also means to get there. It is indeed an overarching norm, in that "States have the duty to cooperate with one another, irrespective of the differences in their political, economic and social systems, in the various spheres of international relations, in order to maintain international peace and security and to promote international economic stability and progress, the general welfare of nations and international cooperation free from discrimination based on such differences."¹¹⁾

Unlike Europe, where European Space Agency (ESA) has shown vivid examples of international cooperation, Northeast Asian countries have as yet shown scanty examples in such minor areas as in exchange of information at scholarly meetings and through courtesy visits. Cold War remnants still persist in Northeast Asia, particularly over the divided Korean peninsula. Under the 1953 armistice, the two Koreas are still legally at war, supported still by the U.S. and her allies on the one hand, and China on the other. Japan has aligned

8) Article III. Id.

9) UN Doc. General Assembly Resolution 2625 (XXV).

10) Article 1, UN Charter, *see* <http://www.un.org/law/>.

11) Declaration on Principles of International Law, *supra* note 9.

with the U.S. in security matters since its defeat in the World War II. The mounting regional tension, coupled with the traditional China and Japan rivalry, has hampered any possibilities for regional cooperation in space activities.¹²⁾

2. China's Strategy

Since China's first successful launch of a satellite in 1970, its space projects have been conducted under the direction of Commission of Science, Technology, and Industry for National Defence (COSTIND). Its space activities have aimed at protecting its national interests and at implementing its development strategy.¹³⁾ Since China successfully launched a manned satellite in 2003, it has been regarded as the third space power in the world. China has shown its ambition to explore the moon by launching a satellite encircling the moon in 2007, and by sending a non-manned satellite there in 2012.¹⁴⁾

12) The time-honored China-Japan rivalry as culminated in the Sino-Japanese War (1894-95) was due to the conflicting interests over the Korean peninsula. The rivalry had been transformed into the ideological confrontation between the communists camp and the capitalists camp after the World War II, again culminating in the Korean War (1950-53). See the text of the Armistice Agreement, at supra note 2. The Korean Conflict came to an end in July 27, 1953, when an armistice agreement was signed, but the war itself has legally persisted by now. Most of the major participants in the Korean War have arrived at rapprochements in one way or the other, starting with the historic visit to the Peoples Republic of China (PRC) by President Nixon in 1971. In the fall of that year PRC joined the U.N. by replacing the Republic of China (ROC, Taiwan). The Japan and the U.S. established diplomatic relationship with the PRC in 1972 and 1979 respectively by de-recognizing Taiwan as representing China. South Korea established diplomatic relationship with China in 1991 and Russia in 1992 respectively. South Korea and the U.S. established diplomatic relationship with China without settling the issue of the Korean War.

13) White Paper on China's Space Activities, <http://english.com.cn/features/spacepaper/spacepaper.html>.

14) It has launched satellites 89 times as of September 2006. It has been the 49th successful launch since 1996. Out of the 69 successful launch, 30 were communication and broadcasting satellites, 7 meteorological satellites, and 22 were recoverable satellites for remote sensing.

China has emphasized upon the significance of international cooperation again, upon ushering into the new millenium. The White Paper on China's Space Activities issued in November 2000 persistently supported international cooperative activities in addition to its development strategy, maintaining that "international space cooperation should be promoted and strengthened on the basis of equality and mutual benefit, mutual complementarity and common development."¹⁵⁾ It reiterated the guiding principles enunciated in the annex of the United Nation's Declaration on International Cooperation on Exploring and Utilizing Outer Space for the Benefits and Interests of All Countries, Especially in Consideration of Developing Countries' Demands in 1996.¹⁶⁾ Mostly in line with the principles enunciated therein, China announced its policies in developing international space cooperation, persisting in independence and self-reliance policy, and attaching significance to the Asia-Pacific regional cooperation.¹⁷⁾

In 1992 China along with Pakistan and Thailand proposed an establishment of the Asia-Pacific Multilateral Cooperation in space Technology and Application (AP-MCSTA). The three countries sponsored a workshop in Beijing in November that year on that theme. Sixteen Asia-Pacific countries including the three other entities discussed possibilities for promoting international cooperation in the region. China emphasized upon the significance of promoting international cooperation in space technology and its application in Asia-Pacific region, and establishing the Asia-Pacific Space Cooperation Organization (APSCO) in the future.¹⁸⁾ China also signed a Memorandum of

15) Id.

16) UN Doc. General Assembly Official Record, 51st Session, Supplement No. 20 (A/51/20). See also Id. Annex.

17) As a pragmatic approach, China stated that it would support research institutions, enterprises and universities to develop international exchanges and cooperation.

18) The APSCO was signed at a signing ceremony held in Beijing on October 28, 2005. Only half of the participants at the 1992 workshop put signatures at the proposed convention. The signatories were Bangladesh, China, Indonesia, Iran, Mongolia, Pakistan, Peru and Thailand. Turkey joined in 2006.

Understanding on Cooperation in Small Multi-Mission Satellite and Related Activities in 1998 in Thailand along with the hosting Thailand, Iran, South Korea, Mongolia, Pakistan.¹⁹⁾ China's previous emphasis upon the significance in regional cooperation in the 2000 White Book diluted away in its 2006 White Book, expanding its interests in international cooperation into the global arena. The APSCO, started as a symbol of Chinese initiated regional cooperation in space activities, has now nine member countries including Turkey and Peru.

3. Japan's Attitudes

Japan launched its first satellite in February 1970. Two months later China did the same. The two have competed fiercely thereafter, just like the Soviet Union and the U.S. have done since early 1958 when the latter hurriedly followed the former's path of the successful launch of the first satellite Sputnik several months earlier. In twenty some years, Japan has been counted as one of the major space powers, by successfully launching series of satellites. China has in turn strongly challenged Japan particularly since November 1999 by launching four space ships by 2002. On October 15, 2003, China proudly launched its first manned space ship Shenzhou (Devine Craft) in October 2003. Unfortunately, however, Japan's attempt at launching a space ship by H2A Rocket No. 6 proved to be a failure in November of the same year. More than a year's recuperation, Japan became eventually successful in launching one in February 2005. However, China was successful in another manned launch on October 12, 2005.²⁰⁾ Hurt by the Chinese successful launch of the manned space ships, Japan pronounced her plan to challenge a lunar exploration by a

19) The initiation was briskly challenged by Japan the next year 1993, when the latter set up Asia-Pacific Regional Space Agency Forum (APRSAPF). <http://www.aprsaf.org/text/about.html>. APRSAF's annual meetings have been held, initiated by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) and Japan Aerospace Exploration Agency (JAXA).

20) It was launched on the Long March 2F from the Jiuquan Satellite Launch Center.

robot in five years, and to construct a manned space base on the moon by 2025. However, China soon forestalled the Japanese dream again by announcing a plan to send a non-manned space ship to the moon by 2010, and a manned one by 2017.

For an effective competition with China, with the self-reliant space policy under the aegis of national defence,²¹⁾ currently Japanese space community is mulling over possible revision of Japanese space policy, ascribing such retardation to the self-imposed clause of the "exclusively peaceful purposes" regarding the use of space technology provided in the Japanese Diet Resolution in 1969. Apparently they prefer a system wherein the national defence authorities can have a say in investment and operation of the space industry. Recently a Special Committee on Space Development and a group of the members of the Liberal Democratic Party has prepared a bill on the Basic Law on Space Activities, but it has been stalled due to the disagreement with the members of the New Komeito Party, a wing of the coalition. The contents of the proposed bill apparently reflect the nationalistic spirit of the increasing right-wingers, who were successful in promoting the National Defence Agency to the Ministry of Defence in 2006.²²⁾ Japan has recently established a spy satellite network by successfully launching the fourth spy satellite on February 26, 2007.²³⁾ A global network with the four spy satellites equipped with one meter high resolution cameras will cover the whole globe for twenty four hours a day.

21) The China National Space Administration (CNSA) is located under the Commission of Science, Technology, and Industry for National Defence (COSTIND), under the direct control of the Central Military Commission, which is the most powerful state organ in China.

22) Kazuto Suzuki, "Transformation of Japanese Space Policy," in IAC-06-E-3.1.A.05, presented at the 57th International Astronautical Congress in Valencia Spain in 2006.

23) Time, Japan Unveils Spy Satellite Network, by Eric Talmadge from Associated Press on Feb. 27, 2007,

II. Reasons for Limited Cooperation

1. Geo-Political Conflicts

One of the deepest concern looming in the Northeast Asia is the tension in the divided Korean peninsula. Since the Korean War, China has been a staunch ally of North Korea. The armistice still persists in the Korean peninsula, where nearly two million soldiers confront each other equipped with nuclear weapons. The U.S. and Japan have been on the alert particularly since North Korea launched Daipodong ballistic missile over its territory to the direction of the U.S. on August 31, 1998.²⁴⁾ In spite of the North Korean remark on opposition to all forms of terrorism, deploring at the 9/11 terror incidents in New York and Washington D.C., President Bush soon labelled North Korea as one of the 'axis of evil' suspicious of proliferating weapons of mass destruction (WMD). The U.S. has also suspected China as a possible origin of the proliferation of the WMD and the delivery system, since the reception of the information with respect to the Pakistan/North Korea trade of nuclear materials and missile technology.

Japan has also been disappointed at the news that China had been involved in the Pakistan-North Korea trades in nuclear and missile technology, and has stayed aloof from Chinese program of international cooperative space activities with developing countries such as AP-MCSTA and APSCO, maintaining close steps with the U.S. in security matters in the region. South Korea as an ally of the U.S. has also taken a similar posture, while emphasizing upon significance of the 'sunshine policy' toward North Korea.²⁵⁾

24) However, North Korea announced that Daipodong No. 1 was in fact to launch satellite Gwangmyonseong No. 1. North Korea attempted to launch another one Daipodong No. 2, but it was reported that it collapsed in forty seconds into the East Sea of Korea (the Sea of Japan).

25) South Korean President Roh Moo-hyun once said the country should pursue a role as a balancer in the Northeast Asia in March 2005. After receiving severe criticism from commentators at home and abroad, he never raised that theme again, saying that the real meaning of his statement was that South Korea

2. Missile Technology Control Regime (MTCR)

Since weapons of mass destruction(WMD) payloads require platforms to deliver them to their intended targets, it is significant to watch the potential delivery platforms of certain complete rocket systems, which include cruise and ballistic missiles, space launch vehicles, and sounding rockets, in addition to piloted and unmanned air vehicle systems, which include cruise missiles, drones, unmanned aircrafts, and remotely piloted vehicles. Particularly cruise and ballistic missiles equipped with WMD can present acute threats to countries within the range of the target. One of the means by which to inhibit the proliferation of such delivery system would be through the rigorous application of export controls targeting the key technologies for the production.

The Missile Technology Control Regime(MTCR), formed informally 1987 by Canada, France, Italy, Germany, Japan, the United Kingdom and the United States, by now expanded to include as many as thirty-four countries including Russia, Bulgaria, South Korea, etc. do exercise substantial control over international transfers of medium-range missiles and the related technology.²⁶⁾ Membership of the MTCR is not inclusive. Although China, which had been treated as informal and partial adherent since 1991,²⁷⁾ reportedly expressed its intention to join the MTCR in June 2004. The MTCR officials responded that

should play an active role so that another Korean War should not break out.

26) MTCR partners are as follows. Argentina(1993), Australia(1990), Austria(1991), Belgium(1990), Bulgaria(2004), Brazil(1995), Canada(1987), Czech Republic(1998), Denmark(1990), Finland(1991), France(1987), Germany(1987), Greece(1992), Hungary(1993), Iceland(1993), Ireland(1992), Italy(1987), Japan(1987), Luxemburg(1990), Netherlands(1990), New Zealand(1991), Norway(1990), Poland(1998), Portugal(1992), Republic of Korea(2001), Russian Federation(1995), South Africa(1995), Spain(1990), Sweden(1991), Switzerland(1992), Turkey(1997), Ukraine(1998), United Kingdom(1987), and the United States(1987).

27) In November 1991, Chinese Foreign Minister Qian Qichen and U.S. Secretary of State James Baker reached a verbal agreement, whereby China agreed to informally abide by the MTCR guidelines and parameters in exchange for the lifting of the U.S. sanctions. The sanction was eventually lifted after China sent a letter to the U.S. State Department in February 1992.

it would give positive consideration, but China has not yet become a partner.²⁸⁾ Presumably it is because certain members have still been suspicious of the Chinese relationship with Pakistan, which were thought to be potential candidate of the proliferation of nuclear and missile capabilities.

As stated above, the major aim of the MTCR is to restrict the proliferation of the potential WMD delivery systems of the ballistic missiles, unmanned air vehicles, and related technology for the systems capable of carrying a 500 kilogram payload at least 300 kilometers. Unfortunately, however, the Regime's controls include space launch vehicle as a part of the complete rocket system. The MTCR is not an international organization. It does not make export licensing decisions as a group. It voluntarily adheres common export policy guidelines adopted as an integral common list of control items listed in the MTCR Equipment, Software and Technology Annex.²⁹⁾ Countries are encouraged to follow the guidelines even without joining the group. It has also conducted outreach activities to non-partner countries, providing them with practical assistance regarding export controls, related legislation, and enforcement.

The MTCR Guidelines make it clear that the Regime is "not designed to impede national space programs or international cooperation in such programs as long as such programs could not contribute to delivery systems for weapons of mass destruction."³⁰⁾ However, partner countries are to be careful about possible transfers of any space launch vehicle equipment and technology, since the technology used in a space launch vehicle is virtually identical to that used in a ballistic missile system.

South Korea concluded a contract with China in 2001 regarding a launch of a multipurpose satellite, but it became abortive in 2002, because the U.S. showed a stern posture that it would no longer supply any parts of satellites in the future if South Korea abides by it, stating that such technology could be

28) <http://www.rediff.com/news/2004/jun/03mtcr.htm>.

29) The Regime's documents including the MTCR Guidelines and the Equipment, Software and Technology Annex are available at www.mtcr.info.

30) Id.

transferred to a country with proliferation potentiality via China, which is not a partner of the MTCR. The cooperative mood developed between China and South Korea has thus been scrapped by the U.S. export control, allegedly in line with the policy guidelines of the Regime. South Korea had to conclude a new launch contract with Russia a partner of the MTCR in 2003. Thus, Korean satellite Arirang-2 was launched into orbit successfully aboard a Eurockot launcher at Plesetsk Cosmodrome on July 28, 2006 in Russia. Arirang-2, equipped with one meter multi-spectral high resolution camera.³¹⁾ South Korea is currently planning to launch a satellite at its newly established Oenarodo Space Center in 2008, assisted by Russia.

III. Current Efforts to Increase Cooperation and the Limits

1. China-Japan Rivalry

Since early 1990s, China and Japan have entered into fierce competition in international politics with respect to space activities. In 1992 China initiated Asia-Pacific Multilateral Cooperation in Space Technology and Applications (AP-MCSTA) along with Pakistan and Thailand. Its mandate has been known "to facilitate programs of multilateral space cooperation in the Asia-Pacific region and [to] promote the institutionalization of AP-MCSTA." In 1993, Japan also initiated Asia-Pacific Regional Space Agency Forum (APRSAP) stating that such a forum would help enhance mutual development of program by exchange views toward the cooperation in space activities in the region.

After a decade long preparation, China established the Secretariat of the AP-MCSTA in Beijing in July 2001, they prepared a text of the Convention of the Asia-Pacific Space Cooperation Organization (APSCO).³²⁾ China initiated

31) The technology was provided by the Israeli firm El-Op.

the first meeting of the Interim Council to formulate APSCO in Beijing on October 29, 2005.³³⁾ Five new members of Bangladesh, Indonesia, Iran, Mongolia and Peru signed the Convention along with the three original members of the AP-MCSTA. Turkey joined it in 2006.³⁴⁾ China was mulling over a possible initiation to launch a small multi-mission satellite program in 2007 by adding up South Korea as a partner, but the latter dropped back for fear of a warning from the U.S. that China is not a member of the MCTR.³⁵⁾

The Asia-Pacific Regional Space Agency Forum (APRSAF) that Japan initiated 1993 was in response to the declaration adopted at the Asia-Pacific International Space Year Conference (APIC) in 1992, to enhance the development of each participating country's space program as well as to exchange views toward the cooperation in space activities in the region. While the Chinese AP-MCSTA sought to initiate the APSCO as an international organization, the APRSAF has remained as an umbrella forum, inviting many space agencies, private space entities, and universities mostly in the region including some in other regions.³⁶⁾ As a forum, it could invite government officers of certain countries, and regional and international organizations European Space Agency (ESA), and most of the national space agencies such as National Aeronautics and Space Administration (NASA), Canadian Space Agency (CSA), Russian Space Agency (FSA), Chinese National Space

32) In accordance with the provision, the Convention was to enter into force when at least five states have signed it and have deposited it with the host state of China their instruments of ratification.

33) Secretariat of AP-MCSTA, Asia-Pacific Space Outlook, No.7(special issue), November 2005,

34) Argentina, Brazil, Philippine, Russia, Ukraine have joined the APSCO with observer status.

35) Notably Turkey has been a partner of the MCTR since 1997. It joined the APSCO in 2006. The reason, that the U.S. allowed Turkey as a member of the MCTR to join the APSCO wherefrom South Korea had to hold aloof at the warning from the U.S. would presumably be due to Turkey role as a passive receiver of the Chinese data, not as a possible partner supplying technology as South Korea.

36) <http://www.aprsaf.org/>.

Administration (CNSA), etc. By March 2007, it has developed into a global forum, including as many as ninety-eight entities from twenty-six countries and twelve international or regional organizations are participating.³⁷⁾

Under the umbrella forum, Japan has also shown leadership in setting up a Disaster Management System. Its first step has been to set up 'Sentinel Asia.' The first step is to garner "voluntary and best-efforts-basis initiatives" in order to share disaster information in the Asia-Pacific region on the Digital Asia (Web-GIS) platform, and to make the timely use of earth observation satellites data for disaster management in the region. It is basically an internet-based, information distribution network to distribute relevant satellite and in-situ spatial information on multiple hazards in the region. It will eventually draw on satellite derived products and imagery from all available earth observing geostationary, or low-earth orbiting satellites, such as meteorological satellites that provide routine data. The system is to be used by member countries to acquire through participating and cooperating space agencies during disasters like flood and tsunami. Currently twenty-three countries are participating in the disaster management support system.³⁸⁾

2. South Korean Attitudes

South Korea is planning to become an independent space power by launching a satellite at the newly constructed Oenarodo Space Center by 2008, even if she is not yet free from the limitation of trajectory to 500 kg with the distance of 300 km. As a late starter with a shoe-string budget, she looks far smaller compared to the two rivaling space powers of China and Japan.³⁹⁾

37) Id.

38) Afghanistan, Bangladesh, Bhutan, Brunei, Burma, Cambodia, China, East Timor, Hong Kong, India, Indonesia, Japan, Laos, Malaysia, North Korea, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, and Vietnam. <http://www.asiasentinel.com/>. (Last visit on March 25, 2007.)

39) South Korea looks smaller compared to its bigger powers: China with the largest population, Russia with the huge land mass, and Japan with its gigantic economy, but she is not that small when her contribution is to be compared to

Despite the frustration at the scrapping of the launch contract with China in 2001, due to the U.S. warning not to supply any parts and technology of future satellites following the terms of the MTCR, South Korea has actively participated in the AP-MCSTA conferences.

Korea Aero-Space Research Institute (KARI) hosted the third meeting of the AP-MCSTA in 1996, as well as the ninth annual meeting of the APRSAT in 2003.⁴⁰⁾ China has made serious efforts to persuade South Korea to join the APSCO, but the latter has not yet dare to do so for the obvious reason that her participation may trigger a suspicion to the U.S. that she would not follow the guidelines of the MCTR faithfully by collaborating with China, a non-MCTR member. As far as South Korea cannot become independent of parts and technology of satellites, it would be risky to join the APSCO, where members are required to do certain action jointly for theme of the international organization.

South Korea has rather been active in participating fora, wether it be AP-MCTA or APRSAT. KARI participate has thus participated actively in the Sentinel Asia as a part of the Disaster Management Scheme of the APRSAF collaborating with the Joint Project Team(JPT).⁴¹⁾ JAXA and KARI have built up friendly relationship by concluding a memorandum of understanding in June 2006. KARI is also seriously considering concluding a memorandum of understanding with the Chinese CASC.

3. Cooperation with ASEAN

China and Japan has rarely cooperated in regional or international space activities. Instead, each of them has made separate efforts in extending

other parts of the world. In fact, she would be as large as the fifty eight entire African countries, or similar to the size of entire Latin America except Mexico, in terms of the volume of trade. However, she is still one ninth of Japan, and a third of China in terms of trade.

40) KARI has participated in the APRSAT annual meetings since its creation.

cooperative hands to developing countries in Southeast and other Asia-Pacific regions. Chinese efforts to recruit members of the APSCO among ASEAN has still been limited to Thailand and Indonesia, which have been collaborating with her since its initiation of the AP-MCSTA in 1992. It has so far been successful in recruiting six members from other regions: Bangladesh and Pakistan are from Southwest Asia; Iran and Turkey are from the Near East; Mongolia is from the Central Asia, whereas Peru is across the Pacific. Without independent space capabilities, they need Chinese contribution with regard to various space applications such as remote sensing and telecommunication.

The APRSAF under Japanese leadership has developed to a remarkable extent as a forum for discussion and sharing data and information for building up networks like Asia Sentinel to tackle the possible disasters in the region. It is marvelous that the ninety-eight entities from the twenty-six countries are sharing informations, along with twelve international or regional organizations, including ASEAN. All of the ASEAN countries have joined.⁴²⁾ Notably eight entities from China including CNSA are also collaborating in sharing information and data. Such a success would be probably due to the common cause of the participant to tackle the natural disaster like tsunami and flood.⁴³⁾

IV. Possibilities for the Promotion of Cooperation

1. Reasons for Reconciliation

Would it be possible for Northeast Asian countries to learn seminary examples of international cooperation from other regions, such as Europe? What are the obstacles to overcome to imitate a mechanism for an international cooperation in space activities as fostered in Europe? European countries have

42) Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, The Philippines, Singapore, Thailand, Vietnam.

43) <http://www.aprsaf.org/> .

been successful in garnering the wisdom of cooperation, based on the commonalities in culture and religion soaked in the region since the Roman Empire. The European Union has just marked its fiftieth anniversary of its creation as European Economic Community by the Treaty of Rome in 1957, turning their backs of the tragic war, and voluntarily pooling parts of their sovereignty into a supranational European organization. Its evolution has continued until the membership has expanded to twenty-seven, based on its fundamental notion of openness to trade, people, and new countries. The Organization for Security and Cooperation in Europe (OSCE), created on August 1, 1975 in Helsinki, basically as a multilateral forum involving all European countries and the U.S. and Canada, also based on the respect of common values of openness rooted in the Western civilization, has now evolved into a semi-global organization, including countries in the Central Asian and else where. Unfortunately, such notions as openness, reconciliation for mutual prosperity have yet been far lacking in the Northeast Asia, where the inertia of tradition still persists.

Apparently the Chinese leadership in the APSCO under the banner of international cooperation still imbued with the time-honored notion of hierarchy that China should lead small and medium size developing countries. The Chinese leadership retaining the traditional style would face difficulties in intermingling with the rest of the world in the era when the Cold War has virtually been over. China has developed too much to be a leader of the third world, particularly in the field of space activities. The APSCO has already developed into a semi-global international organization reigning in the Asia and the Pacific.

2. China and the MTCR led by the U.S.

China's non-partnership at the MTCR in turn hampers the future of the APSCO. It is remarkable that Turkey could join the APSCO in 2006 despite her membership at the MTCR. It has been a good contrast with the case of South Korea, who could not dare to join the APSCO in fear of a possible

sanction from the U.S., because her role therein would be a partnership with China in building up a regional cooperative body for space activities. Presumably the U.S. and other leading members of the MTCR was not that noisy over Turkey's application for the membership at the APSCO, because her role therein would be rather limited to receiving data from China.⁴⁴⁾

The MTCR is still a supplier's cartel with non-inclusive membership. The main theme of the Regime is non-proliferation of the missile and space technology. It is not an international organization. It may not have universal mandate except non-proliferation. The doors are closed to those developing countries which clamour for a help in learning space technology. Probably the APSCO would be one of the doors through which the developing countries would like to knock and peep in to find a chance to learn space technology.

The key factor that hampers possibilities for regional cooperation in the Northeast Asia is the MTCR. The inherent problem therein is that there is no bright line between the technology used in military missiles and that used in civilian space launch vehicles has frustrated international cooperation between a country with that technology and another without one. It can be used as a political leverage to control a developing country without such technology. It could also work as another type of leverage controlling a country not to purchase technology from an unfavorable country like China, which has been looked suspicious of certain linkage with countries of WMD proliferation potential.

Differences between space launch vehicles and ballistic missiles include trajectory, rocket size, propulsion, guidance, and payload, let alone launch facilities and infrastructures. However, the U.S. has held the view that ballistic missile technologies are essential to all aspects of space activities. The U.S. with such a strict view has limited the scope of its international cooperation in space activities, and selectively denied some states's access to its space launch technologies.⁴⁵⁾ Such policy has been articulated in the U.S. laws,⁴⁶⁾ having

44) The APSCO is an international organization with inclusive membership, however the contents of its international cooperation is rather limited to sharing data and information provided by China. The membership has not yet been universalized enough to form a 'win-win' style cooperation between equals.

extraterritorial effects. Notably, National Defense Authorization Act in 1994 included the so called 'sense of Congress' clause that "[m]issile technology is indistinguishable from and interchangeable with space launch vehicle technology."⁴⁷⁾ By stipulating this significant clause the U.S. Congress made it clear that it could oppose to all emerging national space launch vehicle programs.⁴⁸⁾

The U.S. policy on the MTCR and the related laws are too strict to be in line with the Guidelines of the MTCR, which provides that the MTCR is "not designed to impede national space program."⁴⁹⁾ It is also against the basic principle of the 1967 Outer Space Treaty, which in fact recognized the dual-use nature of space technology, permitting the use of military equipment in space and on celestial bodies for peaceful purposes in line with the principle of "open and non-discriminatory access to space."⁵⁰⁾ Dual use potentials alone cannot justify the selective denial of access to technology which would be vitally needed to countries, particularly those which are willing to provide end-use assurances.

The MTCR, as "set of identical policies to be implemented in parallel" does not represent international norms.⁵¹⁾ The potential danger built in the nebulous

45) Testimony of Norman A. Wulf, Deputy Assistant Director, Nuclear Weapons Control, U.S. Arms Control and Disarmament Agency, *in* Missile Proliferation: The Needs for Controls (MTCR): Hearings Before the Subcommittees on Arms Control, International Security and Science, and on International Economic Policy and Trade of the House Committee on Foreign Affairs, 101st Congress, 1st Session 55 (1989) at 184.

46) National Defense Authorization Act for Fiscal Year 1991, Public Law No. 101-510.

47) National Defense Authorization Act for Fiscal Year 1994, Public Law No. 103-160. Section 1614(a)(2).

48) *Id.* Section 1614(b).

49) Agreement on Guidelines for the Transfer of Equipment and Technology Related to Missile, 26 International Legal Materials 599 (1987).

50) Art. IV, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies (1967), 18 U.S.T. 2410, T.I.A.S. No. 6347. Hereinafter Outer Space Treaty.

dual nature of the MTCR should not derogate the basic tenet of the Outer Space Treaty.⁵²⁾ The strict arbitrary implementation of the MCTR in the domestic laws may lead to restrictive access to outer space, which is of course against the basic tenet of the Outer Space Treaty, resulting in a de facto appropriation of the outer space. It may trigger international responsibility, in that it violates the basic tenet of the Outer Space Treaty, which has already become a customary international law. It is also contradictory to the U.S. affirmation in 1967 that "outer space ... [is] not open just to big powers or the first arrivals but shall be available to all, both now and in the future."⁵³⁾

Indeed, the MTCR has been one of the most stringent barrier to the possible acquisition of outer space capabilities by emerging outer-space potential states.⁵⁴⁾ One commentator said that the MTCR has, over time, "acquired the goal of preventing developing countries from gaining access to space through independent space-launch programmes."⁵⁵⁾ The MTCR has been detrimental to the development of the space program in developing countries particularly because of the strict application even undermining certain lenient portions of the MTCR Guidelines. The U.S. export control laws implementing the MTCR have been applied selectively in order to promote U.S. national security and foreign policy objectives, and consequently have discriminated against countries which are not favored. This kind of discriminatory nature of its application coupled with its exclusiveness inherent in the MTCR may result in

51) Richard H. Speier, *The Missile Technology Control Regime*, in Trevor Findlay (Ed.), *Chemical Weapons & Missile Proliferation* 115-116 (1991).

52) The conflicting nature of the laws are against article six of the U.S. constitution stipulates that "all treaties made, or which shall be made, under the authority of the United States, shall be the supreme law of the land."

53) Arthur J. Goldberg, U.S. Representative to the U.N. General Assembly, *Address Before the U.N. General Assembly*, on December 17, 1966, in 56 *Department of State Bulletin* 778, 81 (1967).

54) Pericles Gasparini Alves, *Access to Outer Space Technologies: Implications for International Security*, U.N. Institute for Disarmament Research, *Research Paper No. 15* (1992), at 111,

55) Lora Lumpe, *Zero Ballistic Missiles and the Third World*, 14 *Arms Control: Contemporary Security Policy* 208, 210 (1993).

aggravating regional tension and in heightening resentment.

Basically the MTCR is a kind of supplier cartel. The policy adopted in that type of cartel cannot become international law. It cannot be used to derogate the basic tenet of the Outer Space Treaty in spite of the deterrent role in restricting proliferation of the delivery system of WMD. It would be desirable for the world community to discuss the problematic hazy dividing line of the dual use issues, and seek after possibilities for providing concrete norms in the arena of international law. Probably one desirable way to crystallize a norm is to request the World Court to deliver an advisory opinion by the UN General Assembly initiated by some injured countries the arbitrary application of the problematic domestic law in international affairs.

The MTCR, in spite of its effects in contributing to non-proliferation of the delivery system of the ballistic missile, has rather worked in frustrating international cooperation in space activities, particularly in the Northeast Asia, as has been apparent in cancelling the 2001 launch contract between China and South Korea. The latter has had to restrain herself in participating in the APSCO despite the repeated invitation of the group.⁵⁶⁾ The MTCR has been notorious since its creation in 1987 due to its effects of non-dissemination of space technology toward developing countries. Quite a few commentators stated that the U.S. policy has been discriminatory, citing instances of such discrimination exercised mainly towards the unfavorable states. This means that the MTCR has thus virtually worked toward derogating the basic tenet of free access or non-discrimination, stipulated in Article 1 of the 1967 Outer Space Treaty.

3. Proposed Reconciliation

Apparently the MTCR mechanism has become deteriorated, since its meeting on September 19-26, 2003 in Buenos Aires, where the parties agreed to add a 'catch-all' phrase to the Regime's guidelines. According to a press release by

56) It is remarkable that Turkey joined the APSCO in 2006, while she has been a partner of the MCTR since 1997.

the U.S. State Department, "such provisions would provide regime members with a 'legal basis' to restrict exports of items which were not specifically identified on the MTCR annex, or national control lists when such items are destined for missile programs."⁵⁷⁾ This would mean that the member countries has been supposed to take steps to include the 'catch-all' phrase into national export control laws, following the regime wide requirement. This discretionary 'catch-all' policy may have exerted a coercive power in increasing instances.

Notably China, the third space power in the world, has not been allowed to join the MTCR despite her application in June 2004.⁵⁸⁾ Unfortunately, Chinese bid for a membership came at a time when she was receiving an increased pressure from the U.S. to clear off its policy regarding the alleged transfer of missile and nuclear technology to Pakistan. At that time, Pakistan's suspicious connection to North Korea in missile and nuclear assistance was notorious.⁵⁹⁾ In contrast, a Chinese bid for a membership of the Nuclear Supply Group of forty countries engaged in preventing the nonproliferation of nuclear technology became successful a week before.⁶⁰⁾ On April 28, 2004 China also took the positive posture in collaborating with other permanent members of the UN Security Council in adopting the resolution for the non-proliferation of the

57) Mike Narker, "MTCR Members Amend Missile Nonproliferation Guidelines: Include 'Catch-All' Provisions," *in* Global New Wire, September 30, 2003, http://www.mtholyoke.edu/ctr/projects/us_armscontrol/mctr_cat...

58) In 1990 the then original seven members of the MTCR, Canada, France, Germany, Italy, Japan, United Kingdom and the United States agreed to include all members of the NATO, European Community, and the European Space Agency. In that year they included Australia, Belgium, Denmark, Luxembourg, Netherlands, Norway, and Spain. In the 1990s its membership has generally been increased along the line including all countries of the EU, and added Brazil, South Africa and Turkey from other regions, while adding up Czech, Hungary, Poland and Ukraine from Eastern Europe. South Korea joined in 2001, and the last one that joined recently was Bulgaria in 2004.

59) Sharon A. Squassoni, *Weapons of Mass Destruction: Trade Between North Korea and Pakistan*, CRS Report for Congress, (2004), pp. 8-11. The reasons for the reservations regarding the China's application for the MCTR in June 2004 was presumably due to the requirement of the strong commitment to carry out the commitment in the guidelines.

60) http://www.nuclearsuppliergroup.org/testo_home.htm

WMD, wherein the members expressed their intention that "proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security."⁶¹⁾ The resolution made it clear at the footnotes that the means of delivery are "missiles, rockets and other unmanned systems of delivering nuclear, chemical, or biological weapons, that are specially designed for such use."⁶²⁾

The China's application to join the MTCR should be commendable in that it committed itself to the international community as a responsible missile power in the effort to contribute itself to the mandate of non-proliferation of WMD. The MTCR then gave a word to China that it would give "positive consideration" to its application. It has not known why the members of the MTCR have been unable to receive consensus in spite of the sincere dialogue between the two. Presumably some of the members demanded stronger commitment which should be reflected in her practice, due to the rumor that she had been involved in the North Korea/Pakistan connection in missile and nuclear trade. Once China refresh her previous image as a leader of the third world, and takes a transparent posture in dealing with non-proliferation of WMD and the possible delivery system, members of the MTCR would really take a positive consideration to join her in the group.

4. Necessity for an Overarching Norm

It is remarkable that China has played a leading role in the six-party talks dealing with the North Korean nuclear issues, since the 1994 Agreed Framework broke down due to President Bush's remark on 'axis of evil' in his State of Union Address in 2002, and the ensuing the North Korean withdrawal from the NPT in January 2003. By dint of China's active role as chair-country in the series of six-party talks in Beijing for three years, the parties arrived at Agreement on a Joint Statement on September 19, 2005. In it, North Korea agreed to return to the NPT along with a commitment to abandon all nuclear

61) UN Doc. Security Council Resolution, S/RES/1540 (2004).

62) Id.

weapons and the related program in return for the economic cooperation and aid with energy in addition to the planned construction of the two turn-key style light-water nuclear reactors. It was unfortunate that North Korea conducted a nuclear test on October 9, 2006 in retaliation against the delay of the release of her frozen assets in Banco Delta Asia in Macau. The six parties resumed talks and reiterated their previous commitment on February 13, 2007.

Notably, the Joint Statement on September 2005 included a significant clause that "the directly related parties [to the Korean War] will negotiated a permanent peace regime on the Korean Peninsula at an appropriate forum."⁶³⁾ This was reiterated in the Joint Statement of February 13, 2007.⁶⁴⁾ Presumably 'the direct parties' refer to the two Koreas, China and the U.S. The mandate of the separate forum is to change the current armistice system of the Korean War (1950-53) into a peace regime by concluding a peace treaty, which should be concluded by all parties fought during the Korean War, namely, the two Koreas, China, the sixteen allied powers dispatched under the Security Council Resolution, including the U.S.⁶⁵⁾

Along the line of this possible regional framework for security and peace, the U.S. Congress stated that the "U.S. should explore the possibility of a regional human rights dialogue with North Korea that is modelled after the Helsinki process, engaging all countries in the region in a common commitment to respect human rights and fundamental freedom." Just as the Helsinki process was an overarching norm building framework, comprising human rights, security and environmental issues, it would be desirable that a future peace framework in Northeast Asia dealing with the pending issues of

63) For the text of the Joint Statement, see New York Times, September 19, 2005. See also Joint Statement of the Fourth Round of the Six-Party Talks Beijing, September 19, 2005 at <http://state.gov/r/pa/prs/ps/2005/53490.htm> .

64) It stated that "the directly related parties will negotiate a permanent peace regime on the Korean Peninsula at an appropriate separate forum." See North Korea – Denuclearization Action Plan at <http://state.gov/r/pa/prs/ps/2005/53490.htm> .

65) UN Doc., Security Council Resolution, S/1511, June 27, 1950.

Korean peninsula should also comprise of such broad issues as one relating to cooperation in space activities in the region.

The remaining two parties, namely Japan and Russia are not directly related to the Korean War. Japan had nothing to do with the War, except that it sold non-contraband goods to Korea, whereas Russia actively supported North Korea financially and materially. That was the reason that the then Soviet Union actively participated in the Geneva Conference in 1954 as one of the twenty parties the Soviet Union also participated as an interested party in addition to the nineteen parties recommended by the armistice agreement, even if it was not a party to the Korean war. In the recent six party talks, Russia as a successor of the former Soviet Union has participated along with Japan, even if not directly related to the Korean war. They were added as they were conceived as indirectly affected parties to the North Korean nuclear issues. Their participation will boost up a spirit of multilateralism, whereby an eventually agreed framework may be better implemented as a part of regional security framework.

5. Prospects for Regional Cooperation

A possible reconciliation between China and the MTCR over her application for a partnership would set a cornerstone in building up a cooperative environment in the Northeast Asia. Under such an environment, South Korea could tap expertise from her neighbor China. When South Korea become an independent space power either with her own technology or otherwise, she would be in a better position to play a role as a balancer in coordinating between the two neighboring space giants. South Korea has already acquired capability of retrieving remote sensing data almost as high level as her neighbors by launching satellite Arirang II equipped with one meter high resolution camera on July 28, 2006. She could soon share such data along with her neighboring space giants as well as Southeast Asian countries without any political interests.

It is remarkable that the Japanese led APRSAT has contributed much in

establishing Sentinel Asia as a part of the Disaster Management Scheme, in that each participant, whether it be a state agency, or a private entity like a university or a research institute, can tap the common data to contribute to the common good of safety. The character providing informal fora has been the wisdom of the leadership. It has so far been successful in inviting as many as ninety-eight domestic agencies in the twenty-six countries, twelve international and regional organizations including ASEAN, UNESCAP and UNOOSA.⁶⁶⁾ It is notable that the Chinese National Space Agency (SNSA), China Remote Sensing Satellite Ground Station, and other six entities have recently participated.⁶⁷⁾

Conclusion

Northeast Asia is a unique region in the world where there still persists remnants of the Cold War, as is evident in the armistice system in the divided Korean peninsula, and the pending security issues over the North Korean nuclear test. Due to the political tension coupled with the inertia of the tradition, possibilities for regional cooperation in space activities have been frustrated.

One of the most acute problems that hampers regional cooperation is the U.S. influence as represented in the MTCR, a supplier's cartel, as was evidenced in the ill-fate of the 2001 launch contract between China and Korea the next year. The mandate of the MTCR to the effect that it should block symptoms of any factors related to the proliferation of WMD has incurred conflicts with the principles of international cooperation and free access. The nebulous concept of the possibilities for dual use of the space technology as missiles should be defined by a world organization such as the UN General

66) <http://dmss.tksc.jaxa.jp/sentinel/index.php?menu=member>.

67) This contrasts with its previous dispatch of a team from the National Disaster Reduction Center of China (NDRCC),

Assembly or at the International Court of Justice possibly through a process for an advisory opinion. The MTCR should clarify its guidelines by setting up objective standards, so that such nebulous clauses like 'catch all' phrase should no longer be used in hampering regional or international cooperation in space activities. by virtually blocking the possible trade in parts of satellite system and the related technology. It would be desirable that China's application to join the group should be approved soon, once she shows sufficient evidence that she has carried out requirements of the MTCR. Chinese partnership therein will a catalyst in building up a cooperative environment for space activities in the Northeast Asia.

A possible resolution of the nuclear issues on North Korea will pave the way not only toward building up a permanent peace system in the Korean peninsula, but also toward a permanent security and peace in the region. An overarching framework, modelled after the Helsinki Accords in Europe, would help build up peace and prosperity system in the Northeast Asia. It should include broad norms of reconciliation and common prosperity, comprising areas such as human rights, environment and security let alone regional cooperation in space activities. Such a framework coupled with a possible reconciliation between the policies of China and the MTCR will eventually help set up an environment which will foster regional and international cooperative activities, paving a way toward a regional space organization as elsewhere.⁶⁸⁾

68) Doo-Hwan Kim, "Possibility for Establishing an Asian Space Development Agency" (in Japanese), *Kiyō* (A Journal published by Chuogakuin-daikaku-shiakai-system Genkyusho), vol. 2, no. 2 (2002). The original English version was presented at the IISL meeting in Singapore in 2001.

Abstract

The purpose of this paper is to suggest to tackle the problem of poor cooperation in space activities, by re-examining the nature of the competitive political environment, and by building up a normative overarching framework,

One of the most acute problems that hampers regional cooperation is the U.S. influence as represented in the MTCR, a supplier's cartel, as was evidenced in the ill-fate of the 2001 launch contract between China and Korea the next year. Notably China, the third space power in the world, has not been allowed to join the MTCR despite her application in June 2004. A possible reconciliation between China and the MTCR over her application for a partnership would set a cornerstone in building up a cooperative environment in the Northeast Asia. Just as the Helsinki process was an overarching norm building framework, comprising human rights, security and environmental issues, it would be desirable that a future peace framework in Northeast Asia dealing with the pending issues of Korean peninsula should also comprise of such broad issues as one relating to cooperation in space activities in the region. South Korea could tap expertise from her neighbor China.

When South Korea become an independent space power either with her own technology or otherwise, she would be in a better position to play a role as a balancer in coordinating between the two neighboring space giants. It is remarkable that the Japanese led APRSAT has contributed much in establishing Sentinel Asia as a part of the Disaster Management Scheme, in that each participant, whether it be a state agency, or a private entity like a university or a research institute, can tap the common data to contribute to the common good of safety.

Keyword : MTCR, space activities, international cooperation, ASEAN, satellite

초 록

본 논문은 동북아시아에서의 우주협력에 장애가 되는 것을 극복하고자 정치적 상황을 검토함과 아울러 규범적인 체계의 수립에 대해서 검토하고자 한다.

그러한 협력의 장애가 되는 것중의 하나는 MTCR을 중심으로 하여 미국의 영향력이라고 할 수 있다. 한국과 중국의 발사계약이 성사되지 않은 것도 그로 인한 것이었다. 중국이 MTCR 체제와 융합하는 것이 동북아시아에서의 우주협력을 활성화하기 위한 초석이 될 수도 있다.

Helsinki 사례가 인권, 평화 및 환경 문제를 다루는 포괄적인 규범 체계를 제공하였듯이, 한반도의 안정과 평화를 둘러싸고 수립될 수 있는 동북아시아에서의 평화 체계가 우주부문에서의 협력과 같은 광범위한 문제를 다룰 수도 있을 것이다.

한국이 동북아시아지역에서 제3의 우주개발국가로서 성장하면 중국과 다른 열강과의 관계에 있어서 균형자로서의 역할을 할 수도 있을 것이다. 한국은 우주개발을 통해서 획득한 자료등을 아무런 정치적 이해 관계없이 주변국들과 공유하면서 우주협력을 이끌어낼 수도 있다. 일본이 주도하는 APRSAT가 재난방지위성시스템으로서 Sentinel을 제공하면서 주변 국가들의 협력을 이끌어 낸 것이 하나의 예가 될 수도 있다.

주제어 : 우주활동, 국제협력, MTCR, ASEAN, 인공위성