

● 特別寄稿 ●

The Possibility of Establishing an Asian Space Agency⁴⁾

(아시아 宇宙開發公團의 設立 可能性)

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4) 本稿는 2001년 3월 11일부터 13일까지 싱가포르 Regent Hotel에서 "아시아에 대한 法的 挑戰과 商業的 機會(Legal Challenges and Commercial Opportunities for Asia)"이라는 주제로 國際宇宙法學會(International Institute of Space Law: IISL)와 싱가포르國際法學會(Society of International Law, Singapore)가 공동주최로 개최된 2001년도 싱가포르宇宙法大會에서 발표된 논문임.

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I. Necessity of Establishing Asian Space Agency

The idea of creating an Asian Space Agency (hereinafter referred to as ASA) is only my academic and practical opinion. The creation of an ASA would lead to a strengthening of the cooperation deemed essential by the Asian community towards joint undertakings in space and would act as a catalyst for the efforts on space exploitation and allow resources, technology, manpower and finances to be centrally managed in an independent fashion to the benefit of Asian countries.

"Space already exists for Asia, so the question is what do we do there." It's our job to make sure that all opportunities are used to integrate the power of space exploitation among the Asian countries. In the 21st century, space science and technology will develop with ever greater rapidity.

Having developed rapidly for about half a century, some Asian developed countries with space activities have scored remarkable achievements that, greatly promoted the development of social productivity and progress. The continuous development and application of space technology has become an important role in the modernization drive of Asian countries.

The emergence of aerospace technology in Asian countries has brought huge contributions to economic and social progress. Today, the Asian, aerospace industry has become one of the world's most vigorous and promising high-tech industries.

But in some Asian countries accidents have occurred over the past quarter of a century owing to failure of satellite launches. If the ASA were established to promote cooperation among Asian countries in the near future, I believe that we could mitigate launching accidents by prevention,

through analyzing the causes of accidents and cooperating jointly with the excellent space technicians in Asian countries.

Though some Asian space scientists already have a good multinational programme, sometimes they have to rely on the Americans, Europeans or Russians to launch their space experiments or small satellites for them.

NASA's (US National Aeronautics and Space Administration)⁵), RASA's (Russian Aeronautics and Space Agency: RAKA)⁶) and ESA's (European Space Agency)⁷) programmes for launchers, science, telecommunications, earth observation, remote sensing, international space station and manned space flight, demonstrated great competence. Space ventures and their applications have become normal everyday activities in the global community.

The ASA is not only a part of Asia's legal, economic and social fabric, but also an organization of technical cooperation in Asian countries. To sustain this success in the 21st Century, Asian countries must continue to consider establishing the ASA for opportune and carefully conceived multinational space projects and for help in improving their industrial competitiveness.

It is desirable and necessary for us to establish ASA in order to promote cooperation in space policy, law, science, technology and industry among the Asian countries. If the head of Asian countries will would agree to establish ASA at a summit conference, I am sure that it is possible to establish ASA in the near future

The establishment of the ASA will promote the international cooperation among Asian States in space exploitation, research and technology, as well as their space application and developments, much like the European Space Agency in Paris. It is very important that ministers, high ranking

5) <http://www.nasa.gov/>

6) <http://liftoff.msfc.nasa.gov/rsa/rsa.html>

7) <http://www.esa.int/export/esaCP/index.html>

officials, staff members of space agencies or authorities, space law professors, lawyers, scientists and technicians from Asian countries agree in advance on the establishment of the ASA.

II. History of the Regional and International Cooperation in Asian Country

Especially among Asian countries situated in the same geographic area, motivations of a political, economic, technical and social nature have strongly promoted cooperation in the field of space communications and industry as well as in political and economic organizations.

As a result, several regional, political and economic organizations were set up, such as Asia-Pacific Economic Cooperation (APEC)⁸⁾, the Association of South East Asian Nations (ASEAN)⁹⁾, the Asia-Europe Meeting (ASEM)¹⁰⁾ and cooperative conferences such as the "Asia-Pacific

8) Asia-Pacific Economic Cooperation (APEC) was established in 1989 in response to the growing interdependence among Asia-Pacific economies. The APEC has since become the primary regional vehicle for promoting open trade and practical economic cooperation. Brunei Darussalam is the APEC Chair for the year 2000. Members: Australia, Brunei Darussalam, Canada, Chile, People's Republic of China, Hong Kong (China), Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Chinese Taipei, Thailand, United States of America, Viet Nam.

9) The Association of South East Asian Nations (ASEAN) was established August 8, 1967 in Bangkok, Thailand by the five original Member Countries, namely Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei Darussalam joined on January 8, 1984, Viet Nam on July 28, 1995, Laos and Myanmar on July 23, 1997 and Cambodia on April 30, 1999. The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of US\$ 737 billion, and a total trade of US\$720 billion. In 1995, the ASEAN Heads of State and Government re-affirmed that cooperative peace and shared prosperity shall be the fundamental goals of ASEAN.

10) ASEM, the acronym for Asia-Europe Meeting, is a biennial Summit meeting of heads

Regional Space Agency Forum" at Tokyo, Japan, the "Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific", the "Asian-Pacific Multilateral Space Technology Cooperation Symposium" at Beijing, China, and the "UN-ESCAP Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific" in India.

1. Korea

The aerospace industry may create many benefits for the 21st century with new materials and life science industries. For this reason, the 'Aircraft Industry Promotion Law' was replaced by the 'Aerospace Industry Development Promotion Law' of 1987 in order to ensure appropriate measures for the active development of the industry.

The government regards the promotion of high-technology, including the aerospace industry, as the best way to achieve international industrial competitiveness. In addition, the government set a mid & long term development scheme, that took concrete shape in the 'Basic Long-Term Plan for Korea's Space Development' held by 'National Science and Technology Council' in April 1996 and the, 'Basic Plan for Aerospace Industry Development' held by the 'Aerospace Industry Development Policy Council' in April 1999.

of state and government of 10 Asian countries, 16 EU member states, including the president of the European Commission. In order to facilitate cooperation in various fields, in addition to the biennial Summit meetings, other meetings such as Foreign Ministers' Meeting, Economy & Finance Ministers' Meeting and Senior Officials' Meeting are held. The first Asia-Europe Meeting (ASEM I) was inaugurated in Bangkok on March 1996. ASEM II was held in London on April 1998. ASEM III was held successfully in Seoul in October 2000. ASEM IV will be held in Copenhagen, in 2002. Members: Asia (10): Brunei, China, Indonesia, Japan, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Viet Nam. Members: Europe (16): Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom, EU Commission.

The Korea Aerospace Research Institute (KARI) was established on October 1989, as a research institute exclusively for aerospace technology, in accordance with the national development plan for the aerospace industry. KARI has solidified its infrastructure, and has made a great effort in research and development. KARI will do its utmost to securely establish the aerospace industry by the year 2000, and eventually develop into a world-class aerospace research center.¹¹⁾

In order to digest and introduce state of the art aerospace technologies, KARI has signed technical agreements with 17 organizations in the United States, England, France, Russia, China, Israel, and Poland. In the future, KARI will enlarge technical cooperation with aerospace-related research institutes in developing countries such as Brazil etc.

2. Japan

The National Space Development Agency of Japan (NASDA) was established in October 1969 in order to act as the nucleus for the development of space and promote the peaceful use of space. International cooperation is essential for observing the earth on a global scale.

The Committee for Earth Observation Satellites (CEOS) was established for the international exchange of information on plans for earth observation satellites and for technical adjustments among nations. NASDA can expect such a network to play a major role in international cooperation in earth observation. In collaboration with other international

11) The Korean government announced recently that by 2005 it will construct a Space Center for the launching of satellites at Oenaro Island located near the south coast of the Korean Peninsular. The "Space Center" will serve as the infrastructure for space and technological development and plan to launch a low earth orbit satellite in 2005. A second science satellite made in Korea will be launched from the space center by 2005 and by 2015 four multi-purpose and five science satellites will be launched. It was added that from 2010 the center will be operated on a commercial basis operating launch facilities for low to mid altitude orbit satellites.

partners. All of the recently launched satellites (ETS-VII, TRMM and COMETS) have been developed and/or operated in collaboration with other international partners.

The Asia-Pacific Regional Space Agency Forum (APRSAF), sponsored by NASDA, is a conference to exchange views and perspectives on space development in the Asian region. This forum has been held six times in 1994, 1995, 1996, 1997, 1999 and 2000¹²⁾ since 1993.

The first four and the sixth session were convened at Tokyo, Japan. The fifth session was convened at Ulanbaatar, Mongolia.

The Seventh Forum was held at the Institute of Industrial Science of the University of Tokyo from June 19-22, 2000. The three-day Forum ended successfully with enthusiastic discussions and exchanges of opinions among about 120 participants from sixteen Asia-Pacific countries and four international organizations.¹³⁾

NASDA teamed up with the Science and Technology Agency of Japan (STA) and the Institute of Space and Astronautical Science (ISAS), to hold the Seventh Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-7).

The APRSAF has provided an opportunity for discussing possibilities of future cooperation among space agencies in the Asia-Pacific region, and the participants included leading space industries from Asia-Pacific nations.

The Participating Countries and Organizations were Bangladesh, Canada, China, India, Indonesia, Japan, Korea, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Kiribati, Russia, Singapore, Sri Lanka, Thailand, Vietnam, United States, UN Office for Outer Space Affairs (OOSA), Economic and Social Commission for Asia and the Pacific (ESCAP), and the International Space University.¹⁴⁾

12) http://yyy.tksc.nasda.go.jp/Home/Press/e/200006/aprsaf_000613_e.html

13) <http://www.nasda.go.jp/Home/News/News-e/98aprs.htm>

14) http://yyy.tksc.nasda.go.jp/Home/Press/e/200006/aprsaf_000613_e.html

NASDA's Bangkok Office has been promoting the relationship between Japan and other Asian countries in the space field, especially in the field of research and application of remote sensing technology from space. In the Asian region there are many advantages in using remote sensing data for the purpose of natural disaster monitoring, environment monitoring, map generation etc. NASDA has been promoting the utilization of Japanese satellite data and has conducted some cooperative projects, seminars, training courses etc. in the Asian region.

3. China

The China National Space Administration (CNSA) was established in 1993, as a government institution to develop and fulfill China's due international obligations, with the approval by the Eighth National People's Congress of China (NPC). The Ninth NPC assigned CNSA¹⁵⁾ as an internal structure of the Commission of Science, Technology and Industry for National Defense (COSTIND).¹⁶⁾

In 1994, together with ESCAP, China hosted in Beijing the first Asian-Pacific regional "Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific," and the "Beijing Declaration" issued after the conference has had a far-reaching influence.

In September 1999, in collaboration with the UN and ESA, the Chinese government held at Beijing the "Symposium on Promoting Sustainable Agricultural Development with Space Applications." From July to August 2000, together with the OOSA of the UN and ESCAP, relevant departments of the Chinese government opened the Short-term Training Course for Asia-Pacific Multilateral Cooperation in Space Technology and Applications. Trainees from ten developing countries in the Asia-Pacific region attended the course.

15) http://www.cnsa.gov.cn/administrator_message.htm

16) http://www.costind.gov.cn/e_index.htm

China attaches great importance to space cooperation in the Asia-Pacific region.

In 1992, China, Thailand, Pakistan and some other countries jointly sponsored the "Asian-Pacific Multilateral Space Technology Cooperation Symposium."¹⁷⁾

According to the impetus of such regional cooperation, the governments of China, Iran, the Republic of Korea, Mongolia, Pakistan and Thailand signed the "Memorandum of Understanding on Cooperation in Small Multi-Mission Satellite and Related Activities" in Thailand in April 1998.

Besides the signatory countries, other countries in the Asia-Pacific region may also join the cooperative project, which has helped to enhance the progress of space technology and space application in the Asia-Pacific region. Since 1988, China has provided other developing countries every year with scholarships for long-term space technology training.

4. India

The national space programme was formally organized in June 1972 with the setting up of the Space Commission and the Department of Space (DOS) and the Indian Space Research Organization (ISRO) to promote the development and application of space technology and space science for the economic benefit of the nation.¹⁸⁾ The overall coordination of the space programme is carried out by programme offices of ISRO Headquarters in different areas like satellite communication, earth observation systems, launch vehicle programme, space science, technology transfer and industry coordination, international cooperation, publications and public relations and, budget and economic analysis.

DOS implements the policies framed by the Space Commission. Research and development activities are carried out through ISRO, the National

17) http://www.cnsa.gov.cn/policy_space.htm

18) <http://www.cmmacs.ernet.in/nal/icast/isro.html>

Remote Sensing Agency (NRSA), the Physical Research Laboratory (PRL), the National Mesosphere-Stratosphere-Troposphere Radar Facility (NMRF) and other agencies. An Advisory Committee on Space Sciences (ADCOS) guides the research programmes in the area of space science. The Antrix Corporation Limited, Bangalore, established in 1992, is a wholly-owned Government of India company for commercial marketing of space products and services. The Secretariat of DOS and the Headquarters of ISRO are located at Bangalore.

International cooperation was involved with the establishment of TERLS, the conduct of SITE & STEP, the launches of Aryabhata, Bhaskara, APPLE, IRS-IA and IRS-IB/ satellites manned space mission, etc.. India has established a Center for Space Science and Technology Education in Asia and the Pacific (CSSTE-AP) that is sponsored by the United Nations. Lastly, India hosted the Second UN-ESCAP Ministerial Conference on Space Applications for Sustainable Development in Asia and the Pacific in November 1999.¹⁹⁾

III. Procedure of Establishing the ASA

In order to establish the ASA, we need to take the following five step's procedure.

1) As a first step, it is necessary to hold a workshop, symposium or Internet mass media assembling space law professors, lawyers, scientists, technicians high-ranking officials and staff members from the Asian countries' space agencies, including mainly Korea, Japan, China and India in order to concentrate on their opinions concerning the establishment of ASA.

2) As a second step, we need to organize a preparatory committee for

19) <http://www.isro.org/international.htm>

establishing ASA through a ministerial conference or diplomatic conference of the Asian countries.

3) As a third step, a "Draft Convention for the Establishment of an Asian Space Agency" should be legislated by the excellent law professors or diplomats in collaboration with specialists from the aforementioned Committee.

4) As a fourth step, after extensive discussion and screening of the Draft by a ministerial or diplomatic conference of all Asian countries, they must pass the Draft by unanimity or by a two-third majority of participants of the ministerial diplomatic conference.

5) As a fifth step, the Asian countries must ratify "The Convention for the Establishment of an Asian Space Agency".

I would like to propose the following Preamble to the Draft Convention,, based on the European Space Agency's Convention;²⁰⁾

Preamble of the Draft Convention for the Establishment of an Asian Space Agency

"Considering that the magnitude of the human, technical and financial resources required for activities in the space field is such that these resources lie beyond the means of any single Asian country,

20) In 1975, European Space Conference, meeting in Brussels, approved the text of the "Convention for the Establishment of a European Space Agency" setting up the European Space Agency. The member states are now fifteen countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. Canada is a Cooperating State: United Nations, "Space Activities of the United Nations and International Organizations", UN (New York, 1992), at 135; H.L. van Traa-Engelman, "Commercial Utilization of Outer Space," Martinus Nijhoff Publishers (1993), at 160-161.

Considering that the Resolution will be adopted by the Asian ministerial space conference, which will decide to create a new organization, called the "Asian Space Agency" for the development and construction of space vehicle launchers and station, and that the aim would be to integrate the Asian national space programmes into an Asian space programme as far and as fast as reasonably possible,

Desiring to pursue and to strengthen Asian co-operation, for exclusively peaceful purposes, in space research and technology and their space applications, with a view to their being used for scientific purposes and for operational space application systems,

Desiring in order to achieve these aims, to establish a single Asian space organization to increase the efficiency of the total Asian efforts by making better use of the resources at present devoted to space and to define an Asian space programme for exclusively peaceful purposes, (...)"

IV. The Principal Points that Need to be Included in the Draft Convention

I would like also to propose the following ten principal points that need to be included in the said Draft Convention.

1. Members and Legal Personality

The members of ASA shall be the States Parties to the "Convention for the Establishment of an Asian Space Agency".

The ASA shall have legal personality. It has the capacity, competence and status of international law, but on the territory of the States Parties to its Convention it also has legal capacity in accordance with national law.

2. Purpose

The purpose of establishing the ASA is to provide for and to promote, for exclusively peaceful purposes, cooperation among Asian States in space research and technology and their space application, with a view to their being used for scientific purposes and for operational space applications systems.

The purposes of the ASA shall include in particular:

- Drawing up international rules and monitoring the application of such rules, including the gathering of technical information on space activities conducted under existing legal texts (on registration, recovery liability, satellites with nuclear power resources) or future texts (space shuttle, space station, space debris, etc...);
- Encouraging the transfer of space technologies to developing countries, the training of specialists, and wide circulation of data gathered in the course of space activities, especially data adapted to the needs of these countries (for ex: distribution of remote sensing data);
- Coordinating environmental monitoring by satellites;
- Establishing a monitoring and researching organization in order to protect the environment of earth and space so as to mitigate space debris.

3. Space Policy

The Agency is in charge of elaborating and implementing the medium and long-term Asian space policy, of actual activities and programmes and a related industrial policy in the space field, and the coordination of Asian and national space programmes with respect to international organizations and institutes.

Furthermore, the member States decide on "Asian assimilation" of their

national space programmes by integrating them into ASA programmes.

Finally, the Agency elaborates and implements a space industrial policy, which is designed, in particular, to improve the worldwide competitiveness of the Asian space industry.

4. Exchange of Information

Members and ASA shall facilitate the exchange of space policy, programmes, scientific and technical information pertaining to the fields of space technology.

5. Education and Research

ASA shall ensure the execution of basic activities, such as education, documentation, studies of future projects and technological research work. The ASA also facilitates the collection of relevant information and its dissemination to Member States, assistance and advice for harmonizing national and international programmes and the elaboration and execution of scientific programmes including the design, development, construction, launching, placing satellites and space shuttle in orbit and control of satellites and all similar activities for launching facilities, space station or space transport system.

6. Cooperation

The ASA may, upon decisions of the Council taken by vote of a two-thirds majority of all Members States, cooperate with other international organizations and institutions and with Governments, organizations and institutions of non-Member States, and conclude agreements with them to this effect.

7. Financial Contributions

ASA will be financed by its member States. The scale of contributions shall be based on the average national income of each Member States for the three latest years for which statistics are available.

8. Organs

The Organs of ASA are the Council and the Director General, assisted by staffs.

(1) The Council

- The Council, which is the principal organs, is composed of representatives of all Member States.
- It meets when it is required and is composed of either Ministers of the Member's States or government delegates.

When it meets at ministerial level it can fulfill the political function of the Asian Space Conference.

- The Council elects its chairman and its vice-chairman for a period of two years, and re-election is possible for a further year.
- The Chairman shall direct the meetings, the proceedings, prepare the decisions and maintain appropriate contact with the Member States; he shall advice the Director General and obtain from him all necessary information.
- When the Council meets at the ministerial level, it shall elect a chairman for that meeting.

(2) Director General

- The Director General is the executive of the ASA and its representative.
- The Director General, who is the head of the executive body, is appointed by a two-thirds majority of all Members States.
- He is responsible for the management of the ASA, the execution of

the programmes and he accomplishes all the tasks imposed on him by the Council as well as the implementation of its policy and the attainment of its objectives in accordance with the ASA Convention.

(3) Senior Staff

Members of Senior staff for management, defined by the Council, shall be appointed by the Council on the recommendation of the Director General.

9. Disputes and Arbitration

Disputes between Member States or between any of them and the ASA must first be settled by the Council. If the dispute is not settled this way, it shall at request of any party to the dispute be submitted to arbitration. Unless the Parties agree differently or the Council adopts other rules, the Arbitration Tribunal shall consist of three members.

Each Party shall appoint one of them, and those two arbitrators shall designate a third member. The third member is the umpire and presides over the tribunal.²¹⁾

The rules of procedure may be agreed between the Parties or imposed by the Council. The award shall be decided by the majority of votes (abstentions are not allowed) and it is final and binding. The Tribunal may also interpret the award at the request of a party to the disputes.

10. Headquarters

It is desirable that the headquarters of ASA are located in the geographical center of the Asian countries, in a city with convenient means

21) E. R. C. Van Bogaert, "Aspects of Space Law", Kluwer (1986), at 271.

of transport.

Here meetings of ministers, officials or technical experts from the Member States thrash out big decisions, which the Director General and his senior management give advice about, and then implement. The directors of ASA's programmes for science, applications and launchers are based at the headquarters of ASA, as well as officials responsible for strategy, technological policy, finance etc.

V. Conclusion

The Asian Space Agency is regarded as a new road for Asia's space policy and space exploitation in Asian countries. The Asian Space Agency also coordinates the broad thinking needed to meet new challenges in Asian countries. The Asian Space Agency will provide a vision of Asia's future in space, and of the benefits for people on the ground that satellites can supply.

Due to the developments of Internet, telecommunication by the satellites and space stations, it will be extinguished gradually or step by step the boundary among the nations in Asia as well as in Europe including Russia, North and South America, Oceania and Africa during the coming hopeful new Millennium.

I would like to quote a German poem written by the very famous German poet Mr. Johann Wolfgang Goethe as the following:

"Wissenschaft und Kunst gehören der Welt an, und vor ihnen verschwinden die Schranken der Nationalität".²²⁾

I also would like to translate the aforementioned German language poem to English language as the following:

"The Learning and Art belong to the world, and the boundary of

22) Dr. jur. Hans Wüstendörfer, "Neuzeitliches Seehandelsrecht", Verlag J.C.B. Mohr(Paul Siebeck), Tübingen (1950), S. 17.

nationality is extinguished before them".

I believe that the spirit of the said poem is the spirit of space law. I am sure that it is possible to establish an electronic Asian Space Agency like electronic Government through Internet as well as an electronic Asian Centre for Space Law as a first step.

Since the Asian air and space industry will become a very promising market in the 21st century, we can expect very severe competition among Asian countries and developed countries, such as the USA, Russia, Canada, and EU countries, in order to occupy the Asian market. To win this severe competition on the Asian air and space industry market, it is necessary for the Asian peoples to work together in union, to strengthen cooperation in research, and to establish friendly relations for the benefit of the air and space industry in all Asian countries.

Finally, a very important point is that a political drive, at the highest level, should be given to mobilize states to this initiative, possibly taking the form of a solemn statement by heads of state of Asian countries setting out objectives and prospects for the long term. It should be noted that this political drive will be necessary not only to set up the organization, but also during a subsequent period.²³⁾

It is desirable and necessary for us to establish the ASA, in order to develop the space industry, more to strengthen the friendship friendly relations and to promote the research cooperation among the Asian countries based on the oriental ideology, ethics and creative ideas. I am sure that it is possible to establish an Asia Space Agency, if the heads of the Asian States would agree to establish the ASA through a summit conference.

23) Gabriel Lafferranderie, "Outlook on Space Law over the next 30 years", Essays Published for the 30th Anniversary of the Outer Space Treaty, Kluwer Law International (1997), at 427.