

"Peaceful Uses" of Outer Space and Japan's Space Policy

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Abstract

Space development and utilization must be conducted within a framework of "peaceful uses" principle under Space Treaty. Japan ratified the treaty in 1967, and interpreted "peaceful uses" as "non-military uses" then. A ghost of "peaceful uses" principle has been hung over Japan up to the moment. Japan's space development and utilization has been conducted with genuine academic interest, and therefore Japan did not introduce space infrastructures to national security policy and did not facilitate growth of space industry.

When the Cold War ended, Northeast Asian security environment makes Japan difficult to maintain an interpretation as "non-military uses". Besides the change of external security environment, the domestic industry situation and a series of rocket launching failure needed reexamination of Japan's space policy. Japan is gradually changing its space policy, and introducing space infrastructure in a

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national security policy under a "generalization" theory that gave a broad interpretation of "peaceful uses" principle.

Council for Science and Technology Policy (CSTP) adopted a basic strategy of Japan's space policy in 2004. Since then, a long-term report of Japan Aerospace Exploration Agency (JAXA), an investigation report of Society of Japanese Aerospace Companies (SJAC) and a proposal of Japan Business Federation (JSF) were followed.

Japan will promote space development and utilization in national security policy with a "strictly defensive defense" strategy and "non-aggressive uses" principle for protection of life and property of Japanese people and stabilization of East Asian countries.

Introduction

Japan's activity in outer space is relatively advanced, being the 4th nation in the world to have launched an artificial satellite by its own technology. However, Japan has been conducted space development and utilization with the interpretation of "peaceful uses" principle as "non-military uses" principle from the first, contrary to world wide interpretation of it. Japan's interest in space development and utilization had always been one that is non-militaristic, in a sense, academic oriented.

When the Cold War ended, Northeast Asian security environment has changed so much, and this makes Japan difficult to maintain an interpretation of "non-military uses" principle. The incident of Taepo Dong missile launching that occurred in 1998, had made Japan fearful and aware of the existent security risks. As the result, the government was pressed for the reexamination of space policy in order to allow

room to enhance SDF and to facilitate growth of the space industry.

Besides the change of external security environment, the domestic industry situation and a series failure of rocket launching needed reexamination of Japan's space policy. Japan seems gradually changing its space policy, and introducing space infrastructure into national security field under a "generalization" theory that gave a broad interpretation of "non-military uses" principle.

Council for Science and Technology Policy (CSTP) of Japan adopted a basic strategy of Japan's space policy in 2004. According to the basic strategy, reports presented by Japan Business Federation (JBF) and Society of Japanese Aerospace Companies (SJAC) proposed firmly to shift an interpretation of "non-military uses" principle to a world standard "non-aggressive uses".

This article, firstly, examines the historical state of Japan's space development and utilization policy from the start, secondly, reveals the contents of above mentioned reports and report presented by Japan Aerospace Exploration Agency (JAXA), and lastly, predicts a trend of Japan's space policy.

1 'Peaceful uses' principle of Space Treaty and Japan's interpretation

(1) Space Treaty and "peaceful uses" principle

The first man-made satellite was launched in 1957, and international legislation about regulation of outer space is needed then. The 13th United Nations General Assembly established Committee on the Peaceful Uses of Outer Space (COPUOS) in 1958, and the legal subcommittee of COPUOS started drafting of Space Treaty. Space development and utilization were monopoly of the U.S. and Soviet Russia then, and two countries needed to secure freedom of military

uses of outer space as a common interest.

U.S. and Soviet Russia were only two space advanced nations and their military organizations were in charge of space development and utilization, and did not welcome to discuss limitation of military uses of outer space at COPUOS. It, at first, had decided to discuss this issue at U.N. Disarmaments Committee and limited to discuss an issue of "peaceful uses" of outer space.

In 1966, the U.S. and Soviet Russia proposed a draft of Space Treaty, and it provided that the application of "peaceful uses" is limited to "moon and other celestial bodies". Soon after that, COPUOS persuaded two countries that application of "peaceful uses" needed to be widened to "outer space", and both countries agreed it finally. Draft amended was proposed to the 21st U.N. General Assembly, and adopted as Space Treaty²⁾ in 1967.

During the drafting of Space Treaty, there was an argument about a meaning of "peaceful uses" between U.S. and Soviet Russia. U.S. insisted that "peaceful uses" should not compare with "non-military uses" but "aggressive uses", and "peaceful uses" means "non-aggressive uses" of which implication is not attacking earth from outer space. In other words, members of U.N. are recognized to use "right of self-defense" in article 51, and if "peaceful" means "non-military", then, member states can not use the right of self defense in outer space. Military activities in outer space can not be separated from those on the earth, and U.S. has an intension to take all necessary non-aggressive measures if U.S. is needed to protect itself and allied nations.

On the other hand, the Soviet Union insisted that "peaceful uses"

2) "Treaty on principles governing the activities of states in the exploration and use of outer space, including the moon and other celestial bodies"

must be interpreted as "peaceful uses which prohibited all military uses" in a legislation theory at first. However, Soviet Union also insisted that "peaceful uses" of outer space are inseparably connected to disarmaments and an abolition of military bases on the earth, and it is not appropriate to be forced "non-military uses" immediately. In other words, Soviet Union agreed the U.S. interpretation that "peaceful uses" means "non-aggressive uses". Most of countries agreed to U.S. interpretation but Japan.

(2) Japan's space policy and "non-military uses" principle

Space development and utilization must be conducted within a framework of "peaceful uses" under Space Treaty. Japan ratified the treaty in 1967, and interpreted "peaceful uses" as "non-military uses" then, as I mentioned above. Japan's space development and utilization has been facilitated by three independent organizations, such as National Space Development Agency (NASDA), Institute of Space and Aeronautical Science (ISAS) and National Aerospace Laboratory (NAL), and they shared national budget and missions.

NASDA was established on October 1, 1969, under National Space Development Law, to act as the rules for the development of space and promote "peaceful uses" of outer space. NASDA was responsible for development of satellite (including space experiments and International Space Station) and launch vehicles (such as H-2A rocket), launchings and tracking craft based on the Japanese Space Development Program enacted by Minister of Education, Culture, Sports, Science and Technology (MEXT).

ISAS was established in Tokyo University in 1955. ISAS launched Japan's first artificial satellite OHSUMI and put into orbit by L-4S rocket using solid propellant. Since then, ISAS has cultivated its unique

climate that its mission are achieved based on the concurrent and synergic effort of two groups of people. In 1981, ISAS was born as a joint research organization among Japanese Universities.

NAL was established as National Aeronautical Laboratory in July 1955. NAL carried out its research and development of orbit craft, rockets and other aeronautical transportation system as well as peripheral technology. NAL also endeavored to develop and enhance large-scale test facilities and make them available for use by related organization, with the aim of proving test technology in these facilities.

Drafting space policy, Japan interpreted "peaceful uses" principle with "non-military uses" rigidly from the first, and did not adopt interpretation of "non-aggression" principle. Therefore, Japan's space development and utilization seemed to carry out mainly with scientific curiosity and technical accumulation, and power will be poured into new space technology development about a communications satellite or an earth observation satellite by these three organizations.

A ghost of 'peaceful uses' principle has been hung over Japan up to the moment. Japan's space development and utilization has been conducted with genuine academic purpose, and therefore Japan was not only introducing space infrastructures to its national security policy but also facilitating growth of space industry.

(3) Long-term vision report by Science and Technology Agency

The Space Development Committee in Science and Technology Agency announced a long-term vision report in 1993³⁾ was proposed in December, 1993.. The report reexamines the space development policy outline which devised in 1988 and insists the necessity of study and

3) "On reexamination of a long-term vision in Space Development Committee"

investigation on long term vision on Japan's space development, and points out role of the government and importance of international collaboration, for the next 20-30 years.

In other words, the report proposed long-term objectives for space development as follows;①each field such as communication and earth observation, space infrastructure, and individual space technology development, ②arrangement of space development environment as to personnel training and sufficient budgeting, ③space development propellant system such as cooperation between government and academy, ④promotion of space development by private sector⁴⁾

Japan decided its space policy based on this long-term vision and promoted the development in an academic interest under "non-military uses" principle wholly. In other words, Japan has not considered to utilize a result of space development in national security and to facilitate growth of a space industry. At the beginning of the 21st century, Japan's space policy is going to show a dawn of change.

2 Extended interpretation of "peaceful uses"

(1) "Generalized function of a satellite" theory

During deliberations in the Japanese Diet that took place in 1967 specifically for the purpose of ratification Space Treaty, the wording "peaceful uses" was specifically explained not to contain the notion of limiting Japan's space development activity to "non-military uses". However, one year later, Director of Japan's Science and Technology Agency changed its interpretation and further proclaimed that the wording "peaceful uses" does signify "non-military uses" same as of "peaceful uses" principle of nuclear energy development activities.

4) Ibid., p.4..

Japan established NASDA with the mission to promote space development and utilization in 1969. When the Diet adopted an incidental resolution of NASDA legislation, House of Representatives and House of Councilors reexamined that the Japan's space development policy, and continued not to deviate from the restrictions of the interpretation of "peaceful uses" as "non-military uses" again.

Japan Self- Defense Force (JSDF) was unable to make use of artificial satellites, and enacts utilizing only information gained from commercial satellite for a long time. Argument was made in the Diet regarding the allowance for JSDF to utilize a telecommunication satellite; this issue had been argued up to the 1980s. For instance, an argument involving the use and denial of a foreign commercial remote sensing satellite by JSDF occurred in 1983⁵⁾ In 1985, an allegation regarding the use of U.S. Navy's military communication satellite imaging by JSDF was argued⁶⁾ From these incidences, deliberations initiated for the possibility to allow JSDF to use of satellites.

In February, 1985, Japanese government announced the following official interpretation of "peaceful uses". The wording "being a limitation to the peaceful purposes" does not exactly mean that JSDF must refrain from utilization of space infrastructure. Therefore, JSDF is limited to the utilization of satellite that is commonly used and of its function is generalized⁷⁾.

Japanese government widened its interpretation of "peaceful uses" principle and allowed JSDF to utilize satellite that is commonly used in general. Currently, the LANDSAT satellite is used in general by JSDF; its utilization has been accepted for the purpose of obtaining wide

5) 7th House of Representatives Foreign Affairs Committee, April 27, 1983, pp.13-27..

6) 4th House of Representatives Budget Committee, February 5, 1985, pp.3 - 4..

7) 5th House of Representatives Budget Committee, October 28, 1985, p.3..

range information reconnaissance. A telecommunication satellite is used by Maritime SDF personnel in Iwojima Island, and INMARSAT satellite was utilized by services affiliated with the JSDF personnel engaging United Nations Peacekeeping Operations in Cambodia (UNTAC).

(2) Launching of an information gathering satellite

Development and utilization of space technologies by the JSDF had been restricted; the interpretation of the key wording in space policy "non-military uses" had restricted Japan's national security policy from usage of space infrastructure. The incident of Taepo Dong missile launching that occurred in 1998, had made Japan fearful and aware of the existent security risks. As a result, the government was pressed for the reexamination of space development policies in order to allow room to enhance JSDF.

On August 31st of 1998, North Korea fired the first Taepo Dong 1 missile its trajectory continued through the airspace above Japanese soil, splashing down into the Pacific Ocean. Although North Korea explained this to be launch failure of an artificial satellite, Japan was not given prior announcements; moreover, JSDF was able to identify this incident to be a missile launch in the investigations taking place once the missile splashed down. This incident alerted Japan to recognize existing missile threats that had existed.

In the face of existent threat, Japanese government determined to launch four sets of information gathering satellites by 2002 in December, 1998. The utilization of these satellites are decided for the purpose of promotion of positive peace diplomacy, contribution to a "strictly defensive defense" policy for securing safety of nationals, and forecast and correspondence for catastrophic disaster, a big accident,

and so on.

"@The government repeatedly insisted that the main purpose of these satellites were not for the collection of military information such as surveillances of foreign nations regarding its preparedness of a missile launch. The government emphasized that technology of the information gathering satellites is technology commonly used by commercial satellite, and further stressed that utilization of JSDF is just for contributing to "peaceful" purposes.

Information gathering satellites that were selected by Japan had technical capabilities of the following nature: 2 satellites have high resolution optical sensory capability of approximately 1m resolution from space, and 2 satellites with radar sensory capability. When the 4 satellites were to be used in combination, it is possible to surveillance any place on the earth at least once in a day⁸⁾.

At the time of their launch, a "remote sensing satellite technology" with imaging resolutions of approximately 20m had become available in the market place, however, information gathering satellite technology with imaging resolutions is approximately 1m. Such technology could not be considered as a general standard, and function of 1m imaging resolution satellite has not been commonly used then.

Under these circumstances, Japanese government put forth these arguments explaining such currently advanced technologies will be soon generalized standard then, and expanded its original interpretation of

8) First two information gathering satellites, one radar satellite and one optical satellite, were launched in March, 2003, and second optical satellite succeeded in launching on September 11, 2006. Second radar satellite is going to be launched in 2007. Japanese information-gathering satellite cannot but apply it by two systems till it is launched four satellites, and effective intelligence is not performed. In fact, in the case of the missile consecutive experiments which North Korea performed on July 5, the information gathering satellite of the insufficient system was not able to collect launching information..

"peaceful uses" principle. The decision of launching information gathering satellite and expanded interpretation of "peaceful uses" principle made JSDF available to make use of space infrastructure in Japan's space policy.

(3)Japan's Introduction of Ballistic Missile Defense"@

Japanese government took the incident of North Korea's missile launching as a direct military threat and made two political decisions; the one is to launch its own information gathering satellite, and the other is to begin the study of Ballistic Missile Defense (BMD). The issues have discussed over its necessity and earlier adoption among experts for a long time, but the decision has been postponed by taking into consideration of "peaceful uses" principle and the influences to the neighboring countries.

There is currently no effective means to counter a ballistic missile attack, but BMD systems are being studied. As I mentioned above, Japanese government has launched its information gathering satellites so as to get information on North Korea's launch of ballistic missiles as early as possible. At the same time, Japanese government recognizes North Korea's ballistic missiles as the military threat directly related to national security, and has reluctantly decided to start a study of BMD systems then.

In a series of missile launching and nuclear development of North Korea, Japanese government finally decided to introduce BMD in its space policy corresponding to change of the security environment of Northeast Asia in December, 2003. The nature of BMD is that, it can only be used for defensive purposes, and does not have any tactical advantages for use in offensive operation against neighboring states.

This explanation was used to obtain permission for BMD to be used

by the SDF under the current interpretation of a "peaceful uses" principle. Before the North Korean incident, Japan's missile defense policy was scheduled to be completed by 2011; the incident greatly sped up its completion to 2008, due to the U.N.'s economic sanction against North Korea.⁹⁾

Japan selected the AEGIS Missile Defense System, a three stage standard missile (SM-3) as its BMD for Naval application, and the PAC-3 Missile Defense System as its Land SDF counterpart. SM-3 is used to destroy ballistic missiles fling in the upper tier (90km above sea level), while the PAC-3 is used to destroy missiles fling lower tier (below 15km above sea level); this combination and characteristics has been adapted to protect Japan against those warhead carried by North Korea's ballistic missile¹⁰⁾.

North Korea's long range missile No Dong, with ranges up to 1300km, the following are the technical steps of the missiles strike procedure: the boost stage is discharged approximately 2 minutes after launch, and the warhead reenters into the atmosphere at 200km above sea level. With the approximate warhead re-entry velocity up to 3km/sec., the warhead will strike Japan's soil 10 to 15 minutes after it is launched.

For effective use of BMD, an operational early warning satellite must be in place. However, Japan's "peaceful uses" policy for space prohibits its use by the SDF. Therefore, Japan can only attempt to use the BMD after the missile launch has already taken place (missile launch can only be detected just after launching without the use of an

9) SC Res. 1718, 14 October, 2006.

10) A ballistic missile fired to Japan is detected by ground deployment radar, Aegis-equipped destroyer radar, and target information and interception command are transmitted to Patriot troops with PAC-3 through a BADGE system.

early warning satellite).

Such is an improper application of BMD and will only allow Japan to defend its soil against ballistic missiles if and only if U.S. military force chooses to disclose in formations from U.S. early warning satellites. Since all necessary information is not provided from U.S. military to the Japanese Government, it is questionable if Japan can properly utilize the BMD systems for missile defense.

3 Basic strategy of space development and utilization

(1) Contribution to comprehensive national security

As I mentioned above, NASDA had been conducting research and development activities on its own up to October 1, 2003. In conjunction with the ISAS and NAL, Japan's three organizations for space R&D were integrated into Japan Aerospace Exploration Agency (JAXA) for the purpose of integrated research. JAXA is currently taking the lead role in heading space R&D projects and takes the lead in a space development and utilization policy of Japan. It can be said that establishment of JAXA will become a turning point of rebuilding a new space policy.

After the establishment of JAXA, Council for Scientific and Technology Policy (CSTP)¹¹⁾ adopted a report of basic strategy for space¹²⁾ in September, 2004. As Japan, at the beginning of 21st century, failed in rocket launching in succession, the report analyzes its causes as follows; ①lack of experience on space development, ②premature of

11) Council for Science and Technology Policy (CSTP) is one of the four councils of important policies of cabinet office. The CSTP is comprised by Prime Minister, relevant Ministers, and experts.

12) "Basic strategy for space development and utilization" is adopted on September 9, 2004.

basic space technology and pursuant of economic outcomes, and ③ propellant of big size rockets. The report proposed basic strategy of space development after 10 years from now. Japan's space policy will be processed in accordance with this basic strategy.

The basic strategy report points out threesignificances of space development and utilization; ①importance of national technological strategy, ②' comprehensive national security, and ②sustainable development of earth and humankind and honor of Japan. And objectives of space development and utilization are ③to secure safety of nationals, ④to develop of economic society and to upgrade living quality of nationals¹³⁾

The characteristics of this report is emphasizing contribution to comprehensivesecurity as important strategy of space development and utilization is stressed, i.e. it stressed results of space development should be utilized peacefully in national security and crisis management. In other word, space development andutilization is one of the most valuable measures to collect and transmit variousinformation and facts correctly and quickly, which contributes Japan's comprehensive national security in a rapid political, economical and society change inside and outside Japan¹⁴⁾.

The basic strategy report points out that getting a capability to launch necessary satellite by its own technology is indispensable for Japan, and capability of information, transmission and analysis by a satellite is very effective. Furthermore, it points out that argument on the meaning of "peaceful uses" principle is properly requested¹⁵⁾ This report does not request to change "peaceful uses" principle to

13) Ibid., pp.2-4.

14) Ibid., pp.2-3.

15) Ibid., p.6.

"non-aggressive uses" principle, however, it can be said that the report requests the revision of rigid interpretation as "non-military uses" principle.

(2) Facilitation growth of space industry and strategic diversification

The basic strategy report appeals "facilitation of industry" as one of important strategy of space development. It means that to propellant industrialization of space development and utilization will facilitate growth of space industry as a fundamental industry of Japan. And report proposes that it is necessary for the government to examine anchor tenant system (long-term procurement system) to the end that it will support space industry with vulnerability¹⁶⁾.

The report points out the necessary way to facilitate industrialization; such as ①expansion of market through increasing launching opportunity, ②development of space technology through continuous government support for development experiments and evaluation experiments, and ③promotion of private sector through space industry with internationally competitive power¹⁷⁾.

Furthermore, the report points out "international strategic diversification" as an important strategy. In other words, it proposes important points to be considered as follows; ①reinforcement of cooperation with Asia region, ②cooperation with space developed nations powers, and ③utilization of varied framework of international cooperation¹⁸⁾ When Japan implements its international strategy, it is very important to consider that export of Japan's technology of space development and utilization does not disturb international peace and

16) Ibid.

17) Ibid., pp.6-7.

18) Ibid., pp.8-9.

security.

Japanese government adopted basic strategy for disaster management in Asiaregion, construction of varied framework of international cooperation and re-examination of contribution to developing countries through continuous observation and data analysis and space utilization technology. In addition, the report points out to promote acceptance of a trainee and a researcher to Japanese research organization for a support of a developing country on capability upgrading of space development and utilization¹⁹⁾.

4 Review of "peaceful uses" principle and industrialization

(1) Long-term vision report of JAXA

The basic strategy report recognized space development and utilization as important policy and strategic national technology provides the basis for sustainable development of Japanas an advanced science and technology oriented nation. The report also indicated an executive direction to be pursued by the government for the subsequent period of about ten years.

JAXA recognized that the importance of space development and utilization is increasing for enhancement of national security, stimulation of economic growth and environment protection, all together. And JAXA also recognized its unique status in the country and considers it as its responsibility to provide the society with aclear picture of future aerospace activities and to seek for genuine response from the general public.

With above recognition, JAXA proposed a long-term vision²⁰⁾ on its

19) Ibid., p.9.

20) "JAXA Vision - JAXA 2025 " is proposed on March 31, 2005.

own initiative to present the ideal picture in to aerospace activities and to indicate the direction that should be pursued to turn that picture into reality in March, 2005. JAXA expects that the Vision would be appropriately taken into account in the decision-making by the government to develop national strategies and various projects and policies.

JAXA proposed a roadmap covering the period of 20 years as follows. During the first 10 years, JAXA will take steps toward innovative space utilization, including future human space activities and utilization of the Moon. This would be done by developing pioneering missions and nurturing necessary technologies. Based on the results of the verification of those technologies, JAXA would prepare options for selection by the government on the course of actions to take²¹⁾

During the subsequent 10 years, JAXA will further make to promote wider use of aerospace technologies in the society and will propose innovative space utilization. Following a decision to be made by the government, JAXA will make steps toward new space utilization including the utilization of the Moon and human space activities²²⁾ In other wards, one of the goals for Japanshould be that its equipment industry gains competitiveness in the global market and strength to sustain and expand its commercial activities and JAXA will endeavor totake actions in cooperation with industry and the government²³⁾.

An interesting point in the Vision is as follows. JAXA, in collaboration with industry, will take steps toward providing the foundation and environment that would allow for the space equipment industry to follow other manufacturing industries of Japan, to achieve

21) Ibid., p.20.

22) Ibid.

23) Ibid., p.48.

self-sustained growth in the global market by having products recognized for their high reliability and high quality²⁴⁾.

JAXA proposes two systems as an "information gathering and warning system for disaster and crisis management" and a "global environmental monitoring system integrating observations and predictions"²⁵⁾ And JAXA expects that these systems will contribute to sustainable development of the region of Asia and the Pacific in cooperation with relevant entities.

However, the Vision does not mention about a revision of "peaceful uses" principle and utilization of space infrastructure in national security and crisis management at all. This clearly indicates a peculiar political attitude of JAXA.

(2) Investigation report by Society of Japanese Aerospace Companies

On the contrary to JAXA reports, an investigation report²⁶⁾ presented by the Society of Japanese Aerospace Companies (SJAC)²⁷⁾ in March, 2006 seems very interesting compared to other reports.

SJAC makes progress using the utmost leading-edge technology as tools for developments in space. This task is a new, challenging type of developments, significant as it is an attempt to make developments

24) Ibid., p.16.

25) Ibid., p.10.

26) "Report of investigation on space policy— focused on national security—"was reported in March, 2006.

27) The Society of Japanese Aerospace Companies (SJAC) was established in 1952 as a private forum for aircraft industrialists, and thereafter its steady growth enabled it to expand to include those who are concerned with space development activities. In 1974, the Society was recognized as SJAC to be a legal entity for public benefit sanctioned by the Japanese Government. SJAC shall, as its objectives, promote a sound growth of aerospace industry through production enhancement and trade expansion of the aerospace related products, thus contributing to upgrade of the industry and improvement of national welfare.

in space. The SJAC has insisted that space industry should make a leading start of space technology advancements, and should have the dominant position within the industry of the 21st century for long.

SJAC report examines a possibility of utilizing a space infrastructure for a national security policy in response to the basic space strategy report. This report proposes utilizing space infrastructure concretely and tries to examine the relation between space development and utilization and national security in Japan for the first time.

This report proposes how space technology and space infrastructure contribute to prevent a threat against Japan, deeming destructive powers of the threat to its minimal damage capacity, and make decision-makers aware of how space technology and space infrastructure is necessary for the JSDF to carry out its responsibilities.

SJAC report also contains issues of limitations to be placed upon JSDF; in order to minimize the possibility of making victims. This report considers the concepts of merits posed by the permitting JSDF to use technology derived from space development, after considering the demerits it may cause.

The report considers the relation between a national security and the national space policy, taking into consideration of the threat of terrorism, war and other armed conflicts, petroleum resources, food, environment, an accident, infection, and a natural disasters, all as possible and real threats, and studies the effectiveness of technology resulted from space developments for JSDF to the following five states: deterrence, prevention, detection, mitigation, response, and restoration.

The main feature of this report is regarding the solid examination for the possibility of utilizing a part of the space infrastructure, in order for JSDF to carry its duties out effectively for every part of JSDF (i.e., a land defense duty, a maritime defense duty, and air defense duty).

For example, in land defense duty, to perform landing invasion, carrying out the attack with guerrilla or special forces personnel, or under threat of attack using biological weapons, cyber-attack, and large-scale or special disaster, it is necessary to examine how space infrastructure such as communications satellite, reconnaissance satellite, early warning satellite, weather satellite and so on should be applied properly²⁸).

The concept of availability of such powers for the JSDF, in light of realization of possible threats, its use for defensive purpose was found to be most effective in maintaining peace and security.

Since Japan started space development and utilization and it has maintain an interpretation as "non-military uses" principle, as mentioned above, it still did not deeply consider the importance of space infrastructure use for defensive purpose, nor carried out a solid discussion regarding this issue. This report was caused a stir for future security policy arguments, and promotes an understanding by the people regarding JSDF's necessity to properly carry out its security policy duties.

(3) A proposal made by Japan Business Federation

Japan Business Federation (JBF)²⁹ proposed in its report ³⁰to

28) SJAC report, op.cit., p.74.

29) Japan Business Federation (Nippon Keidanren) is a comprehensive economic organization born in May, 2002, by amalgamation of Keidanren (Japan Federation of Economic Organizations) and Nikkeiren (Japan Federation of Employers' Associations). The mission of Nippon Keidanren is to accelerate growth of Japan's and world economy and to strengthen the corporations to create additional value to transform Japanese economy into one sustainable and driven by the private sector, by encouraging the idea of individual and local communities. Its membership of 1,662 is comprised of 1,351, 130 industrial association, and 47 regional economic organization (as of June 20, 2006).

30) "The proposal for promotion of Japan's development and utilization of space" was proposed on 20 June, 2006.

promote space development and utilization in June, 2006 following the report of CSTP, the report of JAXA and the report of SJAC. JBF proposes an opinion of the industrial community regarding whether Japan will concern itself with space development and utilization by appealing against the importance of space development.

This report points out the necessity of ①arrangement of legislation and system for facilitation of space development to utilization, ② increasing of space development budget and promotion of space development and utilization, ③propellant of space development with cooperation of government and private sector, and ④reexamination of an interpretation of "peaceful uses" principle.

The objectives of "arrangement of legislation and system" mentioned above is to facilitate ①international competitive power of space industry, ②utilization of space infrastructure to security, ③legislation of basic space law, and it will be possible to accomplish ①promotion of international competitive power and credibility of space industry,"@② upbringing of security and safety of nationals, and ③possible building of comprehensive national strategy³¹⁾.

Furthermore, the proposal points out three important policies: ① smooth processing of national projects to maintenance and reinforce space industry and base of technology are needed, ②increasing of budget for space development and utilization is needed, and ③ relationship between development and utilization for expansion of space development is needed³²⁾.

As the proposal points out that space projects for high technology development need big amount of money, the government should facilitates space development as a national project, and private sector

31) Ibid., p.30.

32) Ibid., p.3.

have to promote its space business in view of industrialization.

In addition to this, the proposal points out that"①responding against big change of security environment such as terrorism and missile attack, large scale of natural disaster and natural environment becomes very important for securing security and safety of nationals, and ②many foreign countries concentrate and cast all their high technology to space development. With considering these circumstances, gathering useful information by observation satellite, reconnaissance satellite and navigation satellite is indispensable for Japan's security and safety. And sharing satellite information with foreign countries will contribute international security and safety³³⁾.

The proposal also points out an interpretation of "peaceful uses" principle and stresses to change it to world wide standard of "non-aggressive uses" principle. And when it will be changed it should be taken necessary arrangement then ①to examine satellite development and utilization so as to get correct and effective information gathering and telecommunication capabilities in view of comprehensive national security, and ②to facilitate construction of launching facilities and³⁴⁾.

Conclusion

There are two features of Japan's space development and utilization one is an interpretation of "peaceful uses"principle as "non-military uses" principle, and the other is that three governmentalorganizations carried on the missions separately with wholly academic interest.

Japan did not change its space policy for long and allow JSDF to

33) Ibid., p.2.

34) Ibid.

make use of space infrastructure. However, facing a sudden change of Northeastern security environment such as Taepo Dong incident, Japan integrated three organizations into JAXA and adopted a basic space strategy (including reexamination of "peaceful uses" principle) responding to these circumstances.

JAXA will carry on integrated space mission including development and utilization of space infrastructure in national security policy. However, considering JAXA's peculiar political attitude, it is questionable whether JAXA is proper organization to treat national security matter.

The President of U.S. authorized a new national space policy on August 31, 2006 that establishes overarching national policy that governs the conduct of U.S. space activities. This space policy provides that the design, development, acquisition, operations, and products of intelligence and defense-related space activities shall be classified as necessary to protect sensitive technologies, sources and methods, and operations, consistent with E.O. 12958, E.O. 12951, and applicable law and regulation as amended³⁵).

It can be said that Japan's space policy will change gradually in two ways; ①to facilitate big national project for growth of space industry and development of space technology, ②reexamination of "peaceful uses" principle and utilization of space infrastructure in national security policy.

As for the first point, U.S. space policy is quite clear saying that U.S. is committed to encouraging and facilitating a growing and entrepreneurial U.S. commercial space sector. Toward that end, U.S. Government will use U.S. commercial space capabilities to the

35) 12 Space-Related Security Classification in U.S. National Security Policy, August 31, 2006, p.7.

maximum practical extent, consistent with national security'³⁶⁾.

As for second point, U.S. is committed to the exploration and use of outer space by all nations for peaceful purposes, and for the benefit of all humanity³⁷⁾. And Under the National Security Space Guideline in the National Space policy, U.S. employs appropriate planning, programming, and budgeting activities, organizational arrangements, and strategies that result in an operational force structure and optimized capabilities that support the national and homeland security ³⁸⁾.

The Liberal Democratic Party has prepared a draft of Basic Space Law in 2006, in order to promote space development and utilization, and looking for an opportunity to propose it to the Diet. The opinion of permitting space infrastructure for a national security policy serves as a big flow of current in Japan, and Japan interprets the "peaceful uses" principle of outer space as "non-aggressive uses", and will be expected that the space infrastructures which serves as government-and-industry one and can be used for a security will be developed in the near future.

Maintaining the security policy of "strictly defensive defense", and to contributing the maintenance of peace and security in the Northeast Asia region, Japan's intensions are to promote space development and utilization and its space infrastructure to serve national security policy. National security is critically dependent upon space capabilities, and this dependence will grow every where in the world.

36) Ibid., p.1.

37) Ibid.

38) Ibid., p.3.