

Remote Sensing Satellite and Promotion of Regional Security

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Abstract

The ability of civil remote sensing satellites has improved remarkably in recent years, reaching a level at which they can contribute to regional/international peace and security. Space activities should be for the benefit of all mankind, for peaceful purposes and with international cooperation. This has been expressed in some United Nations resolutions. We have come to consider and examine the feasibility of an organization that will contribute to the regional security using existing space assets.

1. Background -New Threats to Contemporary World

Since the end of the Cold War, international society has faced new threats. The confrontation and feared all-out war between the east and the west has practically disappeared. However, the unforeseen new threats have become concerns around the entire world.

These include terrorism by fundamentalists, drug cultivation and illicit sale, large-scale and systematic pirating, domestic disputes and refugees caused by them, and cyber terrorisms. In

addition, problems, such as environmental protection and natural resource conservation have become new security concerns, which were once considered to be separate from security concerns. These are not only threatening, but also seriously impact our safety, and affect the whole world. These new threats are now common challenges to global security.

Existing military power led by the superpowers has little effect on these new threats. They are being focused on areas that cannot be dealt by large-scale military power. It is therefore necessary to continue a constant small-scale response while leaving open the possibility of final, strong action using military power. In such cases, there can be little effect of a so-called top down type response led by superpowers. Careful bottom-up-type response actions types are more effective. The role that international and regional organizations such as the United Nations play is also important. Combination of such top-down and bottom-up responses so that they supplement each other is likely to be more effective in meeting the threats that present international society faces.

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2. Possibility of Remote Sensing Satellites

The data obtained by remote sensing satellites as well as reconnaissance satellites cannot meet all of such new threats. For instance, reconnaissance satellites were designed to respond to threats perceived during the Cold War. They were used to survey large-scale military movements of potential enemies. Moreover, reconnaissance satellites were used for accurate location of targets in a military attack. In this sense, reconnaissance satellites were not designed for tomorrow's threats but for yesterday's threats.

Moreover, a satellite, for example, cannot detect cyber terrorism. Obviously, cyber space cannot be watched from outer space. However, old-fashioned methods such as satellites can be effective in meeting some new threats, such as pursuit of pirates and location of the drug cultivation regions. Survey of airfields for drug smuggling and pursuit of contraband ships may also be possible. In addition, views from outer space may be effective in detecting environmental pollution and locating its source. An advantage of using space assets is the elimination of risk and trouble on the ground in gathering information on refugees. There is also a possibility of locating terrorist training camps.

Of course, only remote sensing

cannot make a complete investigation. Information gathering and proper analysis on the ground are necessary for that. The analysis includes signal interception and information gathering by humans. In a word, information becomes effective with multiangled analysis, and combining image information from signal information, human information, etc.

The threats that 21st century society faces aren't limited to one country, but can easily cross national borders. Terrorists act internationally, and come from a variety of races and nationalities. Refugees easily spread across national borders. Pirates are not only small-scale operators in the coastal area. They have sold stolen freight internationally, changed the name on a ship's hull, as well as her nationality, to resell. It is naturally insufficient to respond to such international crime by focusing on one specific country. Neighboring countries, regions, and global cooperative action will be needed. It is essential to share recognition and information on this threat. Information exchange can increase the effectiveness of responses to these crimes. Such a principle and necessity of international mutual understanding are similar to the principle of international space law, that is, the outer space shall be the province of all mankind and space activities shall be for the benefit of all countries¹. How can we respond from outer space to 21st century's threats?

3. Promotion of Security Using Outer Space

After the end of the Cold War, the United Nations has advocated contributing to international peace and security with space activities via a series of Resolutions, which require that all space activities be for the common benefit of mankind, for peaceful purposes, and be promoted by international cooperation. We can see that international society wants to bear the responsibility for international peace and security, not only the superpowers but also other nations in some degree, since the Cold War period². Of course, such Resolutions do not have legal binding force on member states. However, by adopting them repeatedly, they have some effect in making each country hesitate to take action in contradiction of them.

The intention of those Resolutions, especially in fact-findings and early warnings, might not be technically feasible, because the information gathered by civil remote sensing satellites may be insufficient for international security purpose at a given time.

But the technical situation is changing drastically. The technology of the civil remote sensing satellites has advanced rapidly during the past decade. The resolution has improved to about 60

centimeters. Investigations of pirates, the illicit drug trafficking, refugees, terrorist training camps, etc. become possible if combined with various related information on the ground. At this point, a series of United Nations Resolutions has changed in character from nominal, idealistic resolutions to feasible ones. We are now able to examine the concrete organization and its role in maintaining international/regional peace and security by fact-findings and early warnings using space assets.

Moreover, the entry of Asian countries into this field is also remarkable. Some countries such as China, India, South Korea, Japan, etc. have solely or jointly developed remote sensing technology and successfully launched satellites. In addition, some Asian countries have purchased satellite data and analyzed them themselves. Such nations have as much know-how for analyzing data and information as the actual users.

4. Promoting Regional Security in Asia —Regional Satellite Centre

If data from remote sensing satellites as well as reconnaissance satellites can be used to contribute to the solution of mutual concerns in the Asian region, it will promote the stabilization of the region. Each country's national interests, which are different, can be realized under a stable regional situation.

In this respect, there is a necessity for regional cooperation. To keep the region stable, the establishment of an international (regional) satellite center as a common use organization is being considered as follows.

1) Higher Organization

There is no appropriate higher organization in the Asian region. In other regions, there are several such regional organizations; such as WEU, EU, NATO, etc. These organizations mainly deal with security matters in and around their respective regions. In Asia, ASEAN Regional Forum (ARF) plays a certain role in security, but keeps no permanent secretariat office yet. However, ARF moves steadily from confidence-building to preventive diplomacy. It has established experts and eminent persons group for fact-finding missions, mediating disputes, and offering practical solutions to disputed issues. It is also thinking about establishing a system of self-reporting, through which member-states would report on their own perception of existing or potential security concerns; and developing an early warning system to identify danger points and emerging crises.

We might consider establishing a new organization to fill this gap until an appropriate higher organization appears. There are several variations in form, such as regionally independent

organizations or regional enterprises in which Asian countries become stockholders. When a higher organization emerges, these entities will belong to it. Actually, there is a precedent in Europe: the WEU Satellite Centre is now under the EU.

2) Establishment Form

a. Regional Organization

There may be a format for establishing a regional organization by international agreement in Asia. In this case, each country would allot the establishment and management cost according to a certain standard, and the engineers and the analysts would be sent from member countries. The dispatched personnel would have the same status as existing international organizations, and would collect and analyze information concerning regional security according to the requests of the member countries.

b. Regional Enterprise

In this case, each country would become a stockholder in this regional enterprise. This capital fund would be allotted to the establishment and management cost. Most members will be dispatched from stockholders. Each country would lodge requests about its own security concerns as a stockholder, and receive reports³.

3) Roles to Play

In any such case, it would be appropriate for member states/stockholder states to be circulated requests from other members/stockholders and their answer reports. All countries in the same region would then learn the concerns of other countries and evaluate them as acceptable or not. By this procedure, the security concern of one country would be promoted to a common concern in the region. In this situation, regional states would hesitate to take any action that would exacerbate the problem by their own discretion, when all member countries easily find out what happened in the concerned area. In Asia, for example, information about military activities in the Spratly Islands; piracy in the Straits of Malacca, the Indian Ocean as well as the South China Sea; drug cultivation in Indochina; etc. would be useful for most regional members.

The EU Satellite Centre has already performed this function. The Satellite Centre in Spain functions as one organization of the European Union, and is used to settle on common diplomatic and security policy⁴. In Asia, there is no regional organization like the EU. Every country has its own individual security policy. However, needless to say, it is more significant to share security concerns between countries with different policies.

Conclusion

One decade has already passed since the end of the Cold War. Present society now faces new threats, which cannot be covered by past international security systems and laws. It is therefore necessary to construct a new system for response in order to supplement the present system. It may be expressed as "putting new wine into a new bottle." It is necessary to combine space assets newly and appropriately to contribute to peace and security on the earth. The theme of a concrete examination for such an effort is the feasibility study of a regional satellite center in Asia.

*Any opinion here is the personal opinion of the author, not the opinion of any organization, which the author belongs.

¹ Outer Space Treaty, 1967, Article 1.

² Y. Hashimoto "Legal Analysis of Military Observation from Outer Space," *Proceedings of the Fortieth Colloquium on The Law of Outer Space*, pp.229-233, AIAA, Washington, DC.

³ There is already a commercial company, which plays the same kind of roles. ImageSat International N.V. provides satellite data to the contracted countries through Satellite Operating Partner Program and Priority Acquisition Service Program. However, there is concern for continuity and reliability because of its style as a private sector.

http://www.imagesatintl.com/#Scene_1

⁴ <http://www.weusc.es/>