

# Possible Organizational Framework for a Multilateral Monitoring Organization

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## I. Introduction

After World War II, the concept of international control in the field of arms control and disarmament has evolved over the years although it had its setbacks during the height of the Cold War era. While the goal of comprehensive and complete disarmament (CCD) was abandoned already in early 1950's, efforts were never ceased in order to implement the treaty obligations provided for in each arms control and disarmament agreement governing a specific aspect of armaments. With the advent of satellite era, the concept of a comprehensive verification organization tended to be replaced

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by an international monitoring agency using space-based sensors as a feasible step.

In this paper, the following is to be examined. First, brief history of the disarmament trend which enabled to envisage an international satellite monitoring organization. Second, what task could be conducted by a future monitoring agency is to be determined to plan a possible organizational framework.

Then, last, possible organizational framework for a multilateral satellite monitoring agency would be studied.

## II. Modern Measures of Monitoring Compliance with Arms Control Treaties

It is true that there existed treaties aiming at disarmament initiative before World War I, but many of them were those imposed by the victors, such as the promise of destroying fortifications and establishing an area of neutrality. Examples would be the Treaty of Westphalia (1648) and the Treaty of Utrecht (1713).<sup>1)</sup> Although some bilateral disarmament agreements came into being which prescribed limitations on the forces or reductions of certain kinds of weapons throughout the nineteenth century, it was not until the end of that century that the disarmament concept itself came to be discussed as the common interest of the international community. In this regard, mention should be made of the first Hague Conference in 1899 while it failed to limit armies, navies and war budgets for a fixed term, reflecting a heated arms race between the Great Britain and Germany.<sup>2)</sup>

One of the outcomes of World War I was a fairly universal desire for a comprehensive disarmament. Efforts were made to reduce "national ar-

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1) T.N. Dupuy & G.M. Hammerman, eds., *A Documentary History of Arms Control and Disarmament* (New York : R.R. Bowker, 1973) Chapters. 1 & 2.

2) C.D. Blacker & G. Duffy, eds., *International Arms Control Issues and Agreements* 2d ed., (California : Stanford Univ. press, 1984) at 83.

mament to the lowest point consistent with national safety” as provided for in Article 8 of the Covenant of the League of Nations. However, such hope remained largely unfulfilled with no comprehensive disarmament agreements concluded during the interwar period.<sup>3)</sup>

After the end of World War II, since new peace did not survive long before replaced by the Cold War, the concept of comprehensive and complete disarmament (CCD) was never sincerely taken into consideration within the framework of the United Nations.<sup>4)</sup> Instead, arms control and disarmament agreements on a specific aspect of the problem were to be concluded at the various fora which were functioning in cooperation with the United Nations.<sup>5)</sup> Regional arms control instruments were also concluded, especially in Europe beginning the later half of the 1980's.<sup>6)</sup> It is needless to say, however, that the most important agreements in this field were those signed between the United States and the former Soviet Union on the limitation of certain weapons or the abolition of the entire missiles of a certain range as well as the limited deployment of the anti-

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- 3) See e.g., P. Noel-Baker, *The First World Disarmament Conference 1932–1933 and Why It Failed* (New York : Pergamon Press, 1979).
  - 4) M. Kurosawa, *Modern International Law on Disarmament* (in Japanese)(Niigata : Nishimura Shoten, 1986) at 30–37.
  - 5) ENDC was established in 1962, which was renamed as CCD with the increase of member states in 1969. In 1978, CCD became Committee on Disarmament, and later in 1984, currently active Conference on Disarmament (CD) was set up. Those fora are independant of the U.N., but CD submits its annual reports to the General Assembly.
  - 6) See e.g., UNIDIR, *Conventional Disarmament in Europe* (1988) ; UNIDIR, *Conventional Forces and Arms Limitation in Europe* (1989).

ballistic missiles.<sup>7)</sup>

It is largely agreed by the intelligence community in the United States that, by the end of the 1960's, advances in space technology had achieved a high level of precision, which enabled both the United States and the former Soviet Union to adequately monitor each other's military facilities, testing of a new weapon, and other substantially suspicious military activities.<sup>8)</sup> Arms control experts also agree that several arms control agreements would not have been concluded without the extensive use of military reconnaissance satellites by the two superpowers for monitoring compliance with their bilateral agreements.<sup>9)</sup>

In contrast, the absence of such a means of surveillance appears to block the development of the disarmament process on the multilateral plane. Indeed, many resolutions of the United Nations emphasized the vital importance of the adequate verification measures in order to conclude disarmament agreements.<sup>10)</sup> Accordingly, naturally, it was claimed that reconnaissance satellites should be available internationally to advance disarmament efforts. Furthermore, other than the monitoring compliance with a specific treaty, having a fact finding tool in case when an international crisis takes

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7) Major U.S.-USSR bilateral agreements are : Incidents at Sea Agreement (1972) ; ABM Treaty (1972) ; SALT I Interim Agreement (1972, expired in 1977) ; Prevention of Nuclear War Agreement (1973) ; Threshold Test Ban Treaty (1974) ; Peaceful Nuclear Explosion Treaty [PNET](1976) ; SALT II Treaty (1979) ; "Hot Line" Expansion Agreement (1984) ; Nuclear Risk Reduction Centers Agreement (1987) ; INF Treaty (1987) ; Ballistic Missile Launch Notification Agreement (1988) ; START I Treaty (1992) ; START II Treaty (1993). Texts of the above-mentioned treaties are found in ACDA, Arms Control and Disarmament Agreements (Washington, D.C : GPO, 1990).

8) See e.g., R.A. Scribner, T.J. Ralston & W.D. Metz, *The Verification Challenge* (Boston : Birkhauser, 1985).

9) See e.g., B. Jasani, "Use of Space Technology for Preventing Wars" (1984)[unpublished] at 1.

10) See e.g., Chariman's Working Paper on Draft Guidelines and Recommendations on "The Role of Science and Technology in the Context of International Security, Disarmament and Other Related Fields", cited in A/48/42 (1993).

place appears to be useful for strengthening international security. In addition to that, "transparency" of the international community itself had been claimed to be useful as one of the confidence-building measures (CBS).<sup>11)</sup>

Various concepts and ideas were published on the establishment of an international monitoring organization using satellites.<sup>12)</sup> Nevertheless, it was only the proposal submitted by France at the first Special Session of the General Assembly devoted to Disarmament (SSOD I) in 1978 that was extensively discussed and studied at the United Nations.<sup>13)</sup> Encouraged by the enthusiastic support toward the French proposal, known under the name of International Satellite Monitoring Agency (ISMA), in-depth feasibility study was conducted by the Group of Experts appointed by the Secretary General.<sup>14)</sup> Final evaluation, given by the said U.N. Group of the Experts in 1981, so-called ISMA Report, concluded the following way :

[f]rom a technical point of view observations from satellites for the purpose of information gathering related to verification of compliance with treaties and for crisis monitoring is both possible and feasible ;<sup>15)</sup>

[f]rom a legal point of view, there is no provision in international law, including space law, that would entail a prohibition for an international governmental organization such as ISMA to carry out monitoring activities by satellites ;<sup>16)</sup>

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11) See e.g., CD/OS/WP.46 (1990).

12) See e.g., A. Myrdal, *The Game of Disarmament* re'd ed., (New York : Pantheon, 1982) ; W.H. Dorn, *Peace-keeping Satellites : The Case of International Surveillance and Verification* (1987) 10 : 5 & 6 *Peace Research Reviews*.

13) A/S-10/AC.1/7 (1978).

14) A/34/540 (1979) ; A/AC.206/14 (1981) [hereinafter ISMA Report].

15) ISMA Report, *ibid.* para.17.

16) *Ibid.* para. 18.

[a]s regards the financial implications, a variety of technical options are possible, leading to a broad range in cost estimates ; ...an ISMA would cost the international community each year well under 1 per cent of the total annual expenditure on armaments.<sup>(17)</sup>

Despite the favorable evaluation for setting up of an international organization for satellite monitoring, the ISMA proposal was not further discussed at the U.N., since both then superpowers were strongly opposed to it.<sup>(18)</sup> ISMA concept was, instead, only sometimes mentioned at the Special Sessions of the General Assembly devoted to Disarmament as well as at the Ad Hoc Committee of Prevention of Arms Race in Outer Space (PAROS) within the Conference on Disarmament (CD).<sup>(19)</sup>

Reflecting the demise of the Cold War, Conference on Security and Cooperation in Europe (CSCE), in early 1990's, accomplished several arms control instruments including the CFE Treaty and the Open Skies Treaty.<sup>(20)</sup> At the same time, however, new European order brought an unstable political environment such as the former Yugoslavian situations. By contrast, U.S.-Russia relationships drastically improved with the START I (1992) and the START II (1993) concluded.<sup>(21)</sup> Although both treaties provide for more intrusive measures of verification than the previous agreements in that they permit partially on-site inspections, it nevertheless in no way

17) Ibid. para. 19.

18) A/34/374 (1979) at 27-28. The USSR did not submit its views.

19) See e.g., A/S-12/AC.1/19/ Rev.1 (1982) ; A/S-12/AC.1/43 (1982) ; A/S-12/AC.1/ 55 (1982) ; CD/PV.329 (1985) ; CD/PV.402 (1987) ; CD/PV.404 (1987) ; CD/PV.419 (1987) ; CD/PV.425 (1987) ; CD/PV.450 (1988) ; A/S-15/AC.1/15 (1988).

20) Treaty on Conventional Armed Forces in Europe (19 Novembr 1990) ; cited in U.N., Status of Multilateral Arms Regulation and Disarmament Agreements (1992) 4th ed, vol.1, 287 at seq. Treaty on Open Skies (24 March 1992) ; cited in Ibid. vol.2, 5 et seq.

21) See e.g., M. Kurosawa, Nuclear Disarmament and International Law (in Japanese) (Tokyo : Yushindokobunsha, 1992) Chapters 8 & 9. Asahi News (in Japanese)(4 January 1993) at 1.

diminish the importance of the reconnaissance satellites as one of the national technical means of verification (NTM). As a result, the idea of setting up of an monitoring agency resurfaced especially in the region of Europe.

In this paper, possible organizational framework for an international satellite monitoring agency is to be studied, supporting the theory that monitoring by space-based sensors would be useful for stabilizing the international community, as monitoring using NTM has been stabilizing the super-power relationships.

### III. Possibility for International Monitoring by Satellites

Taking note of the various proposals submitted on this agenda,<sup>22)</sup> tasks of a future organization for satellite monitoring would be envisaged as :

- (a) monitoring compliance with the arms control and disarmament agreements both currently entered into force and to be in force ;
- (b) fact finding of crisis situations including monitoring cease-fire agreements and fact finding in relation to peace keeping activities by the United Nations ; and
- (c) supplementary, monitoring environmental issues such as natural disasters.

Tasks decided as abovementioned, then, what kinds of organizational structure would well serve three main tasks for monitoring by satellite is to be studied in some detail here.

First, reference would be made to the planned structure found in the ISMA Report of 1981 ; then the other frameworks proposed at the various fora such as CD are to be followed. Mention is to be made of the only existent body for the multilateral satellite monitoring, Torrejon (Spain) data processing center for the Western Europe Union (WEU), as an example for a future organization. Last, a proposal for the possible framework, which is desirable and feasible, would be mentioned.

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22) Supra, note 12.

Most proposals and ideas published to this day on monitoring organization by satellites do not include the monitoring compliance with U.S.-Russia bilateral agreements based on the fact that both parties are possessed of the effective means for treaty verification. Tasks for the monitoring by such organization are limited to multilateral agreements, accordingly.

Significant multilateral arms control and disarmament agreements currently entered into force, or recently signed are as follows :

- (1) Geneva Protocol (1925) ; <sup>23)</sup>
- (2) Brussels Treaty (1948, modified in 1954) ; <sup>24)</sup>
- (3) Antarctic Treaty (1959) ; <sup>25)</sup>
- (4) Partial Test Ban Treaty (1963) ; <sup>26)</sup>
- (5) Outer Space Treaty (1967) ; <sup>27)</sup>
- (6) Treaty of Tlatelolco (1967) ; <sup>28)</sup>
- (7) Non Proliferation Treaty (1968) ; <sup>29)</sup>

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23) Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, 25 June 1925, L.N.T.S. No. 2138, 26, U.S.T. 571, T.I.A.S. No. 8061.

24) See e.g., UNIDIR, Verification of Disarmament or Limitation of Armaments : Instruments, Negotiations, Proposals (1992) Chapter 8.

25) The Antarctic Treaty, 1 December 1959, 402 U.N.T.S. 702, 12 U.S.T. 794, T.I.A.S. No. 4780.

26) Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, 5 August 1963, 14 U.S.T. 1313, T.I.A.S. No. 5433, 460 U.N.T.S. 43.

27) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 27 January 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205.

28) Treaty for the Prohibition of Nuclear Weapons in Latin America, 14 February 1967, 33 U.S.T. 1792, T.I.A.S. No. 10147, 634 U.N.T.S. 281.

29) Treaty on the Non-Proliferation of Nuclear Weapons, 1 July 1968, 21 U.S.T. 483, T.I.A.S. No. 6839, 729 U.N.T.S. 161.

- (8) Seabed Treaty (1971) ; <sup>30)</sup>
- (9) Bacteriological Weapons Convention (1972) ; <sup>31)</sup>
- (10) ENMOD Convention (1977) ; <sup>32)</sup>
- (11) Moon Agreement (1979) ; <sup>33)</sup>
- (12) Conventional Weapons Convention (1991) ; <sup>34)</sup>
- (13) Treaty of Rarotonga (1985) ; <sup>35)</sup>
- (14) Stockholm Document on CSBM's (1986) ; <sup>36)</sup>
- (15) CFE Treaty (1990) ; <sup>37)</sup>
- (16) CSCE Paris Charter (1990) ; <sup>38)</sup>
- (17) Open Skies Treaty (1992) ; <sup>39)</sup>

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- 30) Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, 11 February 1971, 23 U.S.T. 161, T.I.A.S. No. 7337, 955 U.N.T.S. 115.
  - 31) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, 10 April 1972, 1015 U.N.T.S. 163, 26 U.S.T. 583, T.I.A.S. No. 8062.
  - 32) Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, 18 May 1977, 31 U.S.T. 333, T.I.A.S. No. 9614, 610 U.N.T.S. 151.
  - 33) Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 5 December 1979, UN GAOR, A/Res/34/68.
  - 34) Convention on the Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects, 10 April 1981, A/CONF.95/15 Annex 1, Appendix A-D.
  - 35) The South Pacific Nuclear Free Zone Treaty, 6 August 1985, 24 I.L.M. 1440.
  - 36) Document of the Stockholm Conference on Confidence - and Security - Building Measures and Disarmament in Europe Convened in Accordance with the Relevant Provisions of the Concluding Document of the Madrid Meeting of the Conference on Security and Cooperation in Europe, 19 September 1986. Cited in ACDA, *supra*, 319 et seq.
  - 37) Treaty on Conventional Armed Forces in Europe, *supra*, note 20.
  - 38) See e.g., "CSCE Summit Results in Charter of Paris for a New Europe" (1991) 15 The Disarmament Bulletin 10.
  - 39) Treaty on Open Skies, *supra*, note 20.

(18) Chemical Weapons Convention (1993).<sup>40)</sup>

Among the bilateral treaties concluded other than the U.S. and Russia, mention should be made of Brazilian-Argentine Guadalajara Agreement of 1991.<sup>41)</sup> Furthermore, draft treaty on complete test ban and the proposals for a treaty banning Space Weapons are being discussed at the Conference on Disarmament.<sup>42)</sup>

As a prerequisite of considering a possible framework of a monitoring organization, what has to be studied is as to whether each treaty regime allows monitoring by an outside organization. For the purpose of deciding it, verification provisions of each one of the eighteen agreements are to be subjected to the research.

In this regard, the difference between “verification” and “monitoring” has to be clarified, for satellite monitoring organization would be only involved with “monitoring” activities. “Monitoring” is the first phase of the “verification”, or the gathering of information concerning the fulfillment of treaty obligations.<sup>43)</sup> “Verification”, on the other hand, includes adding to the information gathering, analysis, interpretation and evaluation of the information from a technical, judicial and political viewpoint” and the overall assessment in relation to the observance or non-observance of the obligation.<sup>44)</sup> Thus, “consultation and cooperation” measures or verification “through appropriate international procedures” which do not undertake information gathering are excluded from the current research. Notice should be given, however, to the cases that such “consultation and cooperation”, “consultative commission”, or “appropriate international procedures”

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40) Convention on the Prohibition of the Development, Prohibition, Stockpiling and Use of Chemical Weapons and on Their Destruction, 13 January 1993, cited in *supra*, note 20, vol. 2, 113 et seq.

41) See e.g., *supra*, note 24 at 217-28.

42) See e.g., UNIDIR, In Pursuit of a Nuclear Test Ban Treaty (1991).

43) UNIDIR, *supra*, note 24 at 1 ; Department of External Affairs of Canada, Verification in All Aspects (1986) at 15-16.

44) *Ibid.*

can undertake fact gathering. Examples would be “[c]onsultative Committee of Experts” in Article V of the ENMOD Convention and the declaration made at the Second Review Conference of the Seabed Treaty in 1983, by which “appropriate international procedures” (Article III(5)) could be used for collecting information for the state parties which lack the technical means.)<sup>45)</sup>

In this paper, only result of such research could be mentioned due to the limited space assigned ; <sup>46)</sup> outcome of the study is that none of above-mentioned commissions or procedures appear to obstruct the outside involvement of monitoring. Rather, such procedures seem to facilitate outside organization’s participation in information gathering.

Examining provisions in eighteen agreements which are to monitor with compliance of a treaty obligation, six category of monitoring regime is found.

- (1) No provision of monitoring is to be found, which would lead to the conclusion that recourse to the national technical means (NTM) should be permissible as long as such NTMs are in agreement with international law.
- (2) NTM is expressly permitted as a monitoring measures.
- (3) Monitoring is permitted based on reciprocity.
- (4) New organization is established under a treaty to monitor compliance with a treaty.
- (5) Monitoring activities are entrusted with only a part of the states parties to a treaty.
- (6) Monitoring is conducted by an already established organization outside a treaty.

Geneva Protocol, Partial Test Ban Treaty, Seabed Treaty, Biological

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45) UNIDIR, *supra*, note 24 at 224-25.

46) Details are examined in S. Ushioda, *Satellite-Based Multilateral Arms Control Verification Schemes and International Law* (1993) [D.C.L. Thesis, unpublished] Chapter IV.

Weapons Convention, and Conventional Weapons Convention fall under (1) category. Technologically feasible or not, in such cases, NTM is freely to be undertaken to collect information. By contrast, legal instruments such as Stockholm Documents, CFE Treaty, and the Open Skies Treaty are under category (2), although CFE Treaty is also equipped with multilateral technical means (MTM) (Article XV) and the most complex monitoring measures ranging from NTM to on-site inspection. Outer Space Treaty (Article XII) and the Moon Agreement (Article 15), under category (3), provide for on-site inspections subject to reciprocity and reasonable advance notice. When it comes to satellite monitoring, while Outer Space Treaty allows implicitly NTM the Moon Agreement permits not only NTM but also MTM though “appropriate international procedures within the United Nations” (Article 15(1)).

Category (4) involves such treaties: the modified Brussels Treaty of 1954 set up the Agency for the Control of Armament (ACA); the Tlatelolco Treaty established the Agency for the Prohibition of Nuclear Weapons in Latin America, better known under its Spanish acronym, OPANAL; Paris Charter set up the Conflict Prevention Center (CPC); the Argentine-Brazilian Agency for Accounting and Control of Nuclear Materials (ABACC) was established by the Guadalajara Agreement; and the Organization for the Prohibition of Chemical Weapons is the most elaborate and complicated monitoring organization ever set up by a treaty.

Antarctic Treaty falls on category (5) since only consultative parties (Article IX) could carry out on-site inspections and aerial reconnaissance.

Category (6) would be the Treaty of Tlatelolco and the Rarotonga Treaty both of which entrust the International Atomic Energy Agency (IAEA) with the monitoring activities.

Under the category (1)–(6), it is safely concluded that treaties under category (1) and (2) are able to use outside organization using satellite to monitor compliance if a constitutive act of a future organization provides that such organization is to be used as NTM. In contrast, some obstacles might be found in using outside organization to monitor in case of the

treaties under the category (3) -- (6). Examination of each treaty provisions would lead to the conclusion that two treaties, the Antarctic Treaty and the Non Proliferation Treaty, prohibit such organization from participating in the monitoring activities. Although amendment of the both treaties would make it possible for an organization for satellite monitoring to participate, amendment is most difficult for both treaties.<sup>47)</sup> It implies, however, that other sixteen multilateral treaties allow outside organization to be involved with monitoring compliance with treaty obligations, which means such future organization will duly serve its mission.

Other envisaged tasks for a multilateral satellite monitoring organization are crisis monitoring and, supplementary, environmental monitoring. It is certain that those activities are in conformity with established international law.<sup>48)</sup> What could be problematic is the regime of data and information dissemination acquired by space-based sensors. So far, there exists only one legal instrument governing the problem of data distribution, or Fifteen United Nations Principles of 1986.<sup>49)</sup> Principle XII of that U.N. Principles provide :

As soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed State shall have access to them on a non-discriminatory basis and on reasonable cost terms. The sensed State shall also have access to the available analysed information concerning the territory under its jurisdiction in the pos-

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47) Article XII 1.(a) of the Antarctic Treaty provides that the Treaty "may be modified or amended at any time by unanimous agreement of the Contracting Parties" whose representatives are entitled to conduct verification measures. Also, Article VIII 2 of the Non Proliferation Treaty provides that the "amendment to this Treaty must be approved by a majority of the votes of all the Parties to this Treaty, including the votes of all nuclear-weapon States Party".

48) See, S. Ushioda, "Recent Development in Multilateral Satellite Monitoring Systems" (1994) forthcoming.

49) U.N. Resolution 41/65 Principles Relating to Remote Sensing of the Earth from Outer Space (1986).

session of any State participating in remote sensing activities on the same basis and terms, taking particularly into account the needs and interests of the developing countries.  
(underline added.)

It implies that a sensing state or organization does not have to accord the preferable conditions to the sensed states with respect to data and information access. Although a multilateral satellite monitoring organization will engage in military activities, not a remote-sensing activities defined in Principle I of the fifteen Principles of 1986,<sup>50)</sup> negotiating history of that Principle appears to show that both activities of remote-sensing and military reconnaissance would fall within the same category of the rules of international law.<sup>51)</sup> What can be safely said is that liberal regime of data dissemination has become or, at least is becoming a rule of customary international law. Thus, it would largely depend on the constitutive act of a future organization as to how data obtained by satellites are to be disseminated and published.

In sum, three main tasks of an international satellite monitoring agency could be undertaken without the change of a treaty system to be monitored as well as the regime of data dissemination. In other words, little obstacle would be found other than political and financial elements. Thus, in order to make it possible to establish such an organization, effective and possible organizational framework has to be examined in the next section.

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50) Principle I of the 1986 U.N. Principles defines the term "remote sensing" as "the sensing of the Earth's surface from space by making use of the properties of electromagnetic waves emitted, reflected or diffracted by the sensed objects, for the purpose of improving natural resources management, land use and the protection of the environment". (underline added.)

51) Examining the negotiating process, as late as 1983, remote sensing was more widely defined as "observation of a target by means of a device known as a sensor which is separated from a target by a given distance." (A/AC.105/312) Thus, the definition of 1986 Principles does not seem to exclude intelligence gathering activities.

#### IV. Model Framework for an International Satellite Monitoring Organization

The envisaged framework of the French Proposal in 1978 and the ISMA Report of 1981 merits mentioning more than ten years after it was published. Phased development of an International Satellite Monitoring Agency (ISMA) was planned by the French proposal and the Report. Phase I would involve the establishment of an image processing and interpretation center (IPIC) using imagery data from existing civilian satellite systems. If possible, imageries from national military satellites from the two space powers would be used as well. Ground stations for receiving data acquired by civilian satellite systems and national military satellites (if possible) would be constructed in Phase II, and Phase III would comprise full-fledged ISMA facilities, owning space segment for operational monitoring satellites.<sup>52)</sup>

With respect to the legal status of an ISMA, the ISMA Report submitted four alternatives : (1) ISMA as a specialized agency of the United Nations ; (2) ISMA as a subsidiary organ of the General Assembly ; (3) ISMA as a subsidiary organ of the Security Council ; and (4) ISMA as an independent organization.<sup>53)</sup> The first alternative does not seem desirable for an ISMA since a specialized agency has to be subject to the power of the U.N. Economic and Social Council (ECOSOC) which "may co-ordinate the activities of the specialized agencies through consultation with and recommendations to such agencies" (Article 63(2) of the U.N. Charter) while the functions of an ISMA would exceed those of the ECOSOC.

The second alternative has two potential disadvantages : one is that subsidiary organs of the General Assembly are established through U.N. General Assembly resolutions. Should the constitutive act of an ISMA be a G.A. resolution, it would be most exceptional for an universal intergovernmental organization. In fact, the Group of Experts stated that "with a highly sensitive mission, affecting the security interests of States, its establishment

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52) ISMA Report, *supra*, note 14, paras. 232-79.

53) *Ibid.* paras. 366-73.

through any less formal legal instruments would be inappropriate".<sup>54)</sup> The other disadvantage is that the text of the U.N. Charter is uncertain regarding the relative responsibilities over security matters between the General assembly and the Security Council.<sup>55)</sup> Thus, an ISMA would be put in an unstable situation.

The third alternative has the disadvantage for an ISMA in that it would be set up by the Security Council resolution. As a result, ISMA's missions would be adversely affected since the unanimity of all the permanent members of the Council is required before conducting its missions.<sup>56)</sup>

Last alternative was not given any support by the Group of Experts.<sup>57)</sup>

The conclusion by the ISMA Report is rather ambiguous, stating that "the agency should be an independent body, closely linked with the United Nations"<sup>58)</sup> and that "the Agency's link with the United Nations should be established through General Assembly rather than through ECOSOC"<sup>59)</sup>.

One example which can meet the abovementioned conclusion would be the International Atomic Energy Agency (IAEA) which is not a specialized agency reporting to the General assembly, not to the ECOSOC, and in some cases, IAEA is subject to the supervisory power of the Security Council; nevertheless, IAEA is treated as if it were a specialized agency in its authority.<sup>60)</sup> Owing to the similarity of the functions as monitoring agency, while the ISMA Report did not expressly state so, the Group of Experts seemd to prefer an IAEA-type of arrangement for an ISMA.<sup>61)</sup> ISMA, being a major intergovernmental organization, should be established

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54) Ibid. para. 375.

55) E. McWhinney, *United Nations Law Making : Cultural and Ideological Relativism and International Law Making for an Era of Transition* (New York : Holms & Meier, 1984) at 91-96.

56) ISMA Report, *supra*, note 14, para. 372.

57) Ibid. para. 373.

58) Ibid. para. 374.

59) Ibid.

60) Ibid. para. 369 ; see also, Statute of the IAEA, Article III B.4.

61) Ibid. para. 374.

through a convention with several annexes in which detailed organizational, personnel and financial matters are stipulated.<sup>62)</sup>

All those evaluation is made on the assumption that an ISMA should be an universal intergovernmental organization, ranking with at least specialized agencies of the United Nations. An IAEA type of organization would be preferred from such consideration. Such might be too ambitious and premature even in the 1990's, however, taking note of e.g., the lack of any complete on site inspection regime by an international organization.

Relinquishing the idea of world-wide organization as well as the goal of an organization owning its own reconnaissance satellites with high spatial resolution, it would be highly possible to take a first step such as a clearing house of analyzed data.

For the purpose of considering a feasible framework for a satellite organization, other proposals published are to be examined here. Unfortunately, other models are not nearly as elaborated as an ISMA, mention should be briefly made of those structures.

World Space Organization (WSO) proposed at the U.N. in 1985 and 1988 by the former Soviet Union planned to construct an organization that would cover all domains of space-related activities, both military and civilian.<sup>63)</sup> Such idea of tight management of all space missions by a centralized agency did not attract substantial support at the U.N. The former Soviet Union also made a proposal of International Space Inspectorate (ISI) at the CD in 1988.<sup>64)</sup> The structure of the ISI being rather unclear, the then German Democratic Republic tabled a proposal at the CD, which recommended both an ISI and an ISMA would be included in a WSO.<sup>65)</sup>

France again proposed an ISMA during the SSOD III in 1988, this time the implementation of the Phase I of an ISMA was urged under the name

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62) Ibid. para. 375.

63) V. Vereshchetin & E. Kamenetskaya, "On the Way to a World Space Organization" (1987) 12 *Annals of Air & Space L.* 337 ; A/AC.105/L. 171 (1988).

64) CD/817-CD/OS/WP.19 (1988).

65) CD/833 (1988).

of the Satellite Image Processing Agency (SIPA).<sup>66)</sup> SIPA, with the task of data analysis, data dissemination as well as training of photo interpreters, would be regarded more as a confidence-building device, rather than a monitoring organization.<sup>67)</sup> The same thing could be said about the Six-country initiative calling for the establishment of an International Monitoring Center (IMC) during the SSOD III in 1988.<sup>68)</sup> The scope of the functions of the IMC is similar to that of the proposed SIPA while the former's eventual goal is to be a IAEA-type comprehensive verification agency.<sup>69)</sup>

If the goal of universal intergovernmental organization for monitoring is discarded, a regional and simple organization in service of monitoring by satellites would be come into being in a region where infrastructure is well developed. Several interesting proposals were made at the fora including the CD, the Council of Europe and the European domestic parliament.<sup>70)</sup> While none of them were actually established and operated, a prospective model, a Torrejon Satellite center to process data set by the Western European Union (WEU) is to be a SIPA-type agency once French reconnaissance satellite Heilios would be successfully placed into orbit.<sup>71)</sup>

66) A/S-15/34 (1988) ; see also, CD/937-CD/OS/WP.39 (1989) at 4.

67) CD/937-CD/OS/WP.35 (1989) at 5.

68) A/S-15/AC.1/1 (1988). Six countries are Argentine, Greece, India, Mexico, Sweden and Tanzania.

69) T.E. Celmins, "Security in the Space Age" (1990)6 Space Policy 33 at 38-39.

70) With respect to Paxisat concept, see e.g., Department of External Affairs of Canada, Paxisat Concept : The Application of Space-Based Remote Sensing for Arms Control Verification (1986) ; CD/786 (1986), CD/870 (1988) and CD/954(1989) referred to the Paxisat concept. Concerning the Regional Satellite Monitoring Agency (RSMA), see e.g., C. Voute, "The ISMA Proposal and European Political Climate"(1987) in B. Jasani & T. Sakata, eds., Satellite Monitoring for Arms Control and Crisis Monitoring (Oxford : Oxford Univ. Press, 1987). Another RSMA approach taken by the Swiss parliament is seen, B. Jasani, "Arms Control and Conflict Observation Satellites"(1985) 1 Space Policy 363. Also, regarding Swedish "Tellus" concept, see, The Swedish Board for Space Activities, Verification Study of a Verification Satellite "Project Tellus" Final Report (1988).

71) P.B. de Selding, "WEU Criticizes Data Facility", Space News (6-12 December 1993) at 3 & 21.

Irrespective of the outcome as to whether a SIPA-type agency such as WEU's data center would become a full-fledged ISAM-type agency or not, preparing the minimum facilities for data analysis and educating trainees of photo interpretation must bring a tremendous benefit to international community. In this phase, tasks of satellite center does not have to be limited to crisis monitoring and monitoring compliance with treaty obligations. Rather, emphasis should be placed on the missions such as environmental monitoring for finding natural disasters and acquiring useful information on fisheries, agriculture and forestry, taking particularly into account of the needs of the developing countries which do not possess space capability. In case when such environmental monitoring is conducted employing image interpreters from developing countries, such manpower accumulation would be an indispensable basis for a more developed agency equipped with ground stations.

In sum, a full international organization with the assembly, the council and the secretariat should not be taken into consideration at least for the time being. More specialized and technical systems such as a regional satellite communication association might be a good model for following. A technical agency or subagency such as a data center of the WEU should not have to remain for good just as a technical data processing center. Data clearing house could be open the way for either the forum of international cooperation or some kind of verification organization with the limited authority.

Too ambitious framework should be given up until the end of this century, since monitoring agency, which inevitably involves national security implications, cannot be constituted like the International Telecommunications Union (ITU) which grants the benefits to all participants.

## V. Conclusion

As a conclusion, one interesting example is to be presented to consider a possible future agency for satellite monitoring.

Soon after World War II, the Baruch Plan, or international control of military and civilian nuclear energy by an International Atomic Development Authority (IADA) was adamantly opposed by the former Soviet Union.<sup>72)</sup> Then the USA launched a new strategy to transfer the U.S. nuclear materials and technology by way of bilateral agreements which provide for appropriate safeguards to forbid military use of the materials and technology.<sup>73)</sup> The former Soviet Union, The United Kingdom, and Canada soon followed the U.S. practice with respect to the bilateral agreements comprising safeguards provisions concerning civil uses of atomic energy.<sup>74)</sup> After IAEA was established in 1956, monitoring compliance with such bilateral agreements was gradually transferred to the IAEA from the nuclear materials - and technology - providing nations by way of three parties agreements. That was already a big change for the IAEA when it comes to its main functions as a providing organization of fissible materials.<sup>75)</sup> The verification of the obligation of the non-nuclear-weapon states of not acquiring nuclear weapons was, after the Non Proliferation Treaty was entered into force, transferred to the monitoring regime of the Treaty from the said three parties agreements. Thus, currently, model agreement between the IAEA and the non-nuclear-weapon states<sup>76)</sup> are globally disseminated, which implies that the civil uses of atomic energy agreements are automatically verified by the outside organization provided for in the Non Proliferation Treaty.

There must be a possibility of satellite monitoring agency to be established in a phased way like the example of abovementioned IAEA. The main function of IAEA has grossly changed. Hence, now is the time for

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72) B.G. Bechhoefer, *Postwar Negotiations for Arms Control* (Washington, D.C. : Brookings Institution, 1961) at 41-82.

73) OECD-NEA, *Nuclear Trade*, vol.1, Chapter 1.

74) Y. Matsui, "Peaceful Uses of Nuclear Energy and International Law" (in Japanese) (1978) 150 *Horitsujiho* 746.

75) OECD/NEA, *supra*, note 73.

76) Definitions Used for Implementing the IAEA Safeguards Agreements Under the NPT INFCIRC 153.

a space nations to prepare for at least data interpretation center in the wake of the IAEA model. Otherwise, environmental monitoring should be always welcomed in 1990's.