

MEXICAN CONTRIBUTIONS TO THE DEVELOPMENT OF PRINCIPLES RELATING TO REMOTE SENSING OF THE EARTH, ITS NATURAL RESOURCES AND ITS ENVIRONMENT

CARL Q. CHRISTOL*

Since 1970 the Committee on the Peaceful Uses of Outer Space (COPUOS) has been concerned with the formulation of a set of principles relating to remote sensing from outer space.¹ This involvement, resulting in lengthy discussions in both the Legal and the Scientific and Technical Sub-Committees, has taken into account a number of substantial concerns.

Sensing devices point in many directions. When they look upward they inquire into the unknown secrets of the universe. When they are pointed outward they serve navigational needs. When they point inward they examine, in a clinical fashion, the workings of the men and machines that have been carried aloft. There has been little cause to deny the suitability of such functions. Monitoring devices, however, also look intently and perceptively toward the earth. As a result of this curiosity, personal and national privacy, along with other jealously guarded possessions, have become objects for public inspection and open observation. These discreet inquiries have resulted in an erosion of privacy. This situation has produced varied and substantial concerns about the use of the highly refined capabilities of orbiting space objects and their component parts.

Remote sensing, as a practical fact of life, has had an impact

* A.B., 1934, University of South Dakota; A.M., 1936, Fletcher School of Law and Diplomacy; Ph.D., 1941, University of Chicago; LL.B., 1947, Yale Law School. Professor of International Law and Political Science, University of Southern California, Los Angeles, California.

1. The first submission was made by Argentina. COPUOS, Draft International Agreement on Activities Carried Out Through Remote-Sensing Satellite Surveys of Earth Resources, (Agenda Item 3), U.N. Doc. A/AC.105/C.2/L.73 (1970); COPUOS, Matters Relating to the Activities Carried Out Through Remote-Sensing Satellite Surveys of Earth Resources, Annex 4 (Agenda Item 5) at 1, U.N. Doc. A/AC.105/133 (1974) [hereinafter cited as 1974 Remote-Sensing Satellite Surveys].

on States, international intergovernmental organizations, commercial and scientific institutions, a variety of groups of people, and on the individual. This impact has modified existing outlooks on economic, political and security matters. Sensing for example, can influence the identification and distribution of wealth. Moreover, sensing can induce political dialogue calling for the sharing of the benefits derived through the sensing process. Basic concerns as to the condition of national security are raised by sensing, particularly when it is assumed that one State has obtained important data relating to the military capabilities of other States.

Additionally, sensing has gathered a new treasure trove of scientific and technological data. This has led to collateral calls for the widest possible sharing of such findings, as well as genuine assertions of the fundamental need for at least a modicum of privacy. The reality of sensing has significantly contributed to an increasing awareness of the small size of the universe and the close proximity of its inhabitants.

Sensing has substantially influenced the growing conviction that the world's juridical and natural persons coexist in a world community. However, it has also heightened an awareness that the advanced States have already obtained access to critical resources. This realization has produced urgent expressions from all quarters of the developing world calling for the sharing of the newly acquired wealth and technological know-how. The confluence of the foregoing concerns has directed attention toward the need for new international legal regimes and world organizations to cope with such forces, to facilitate the recognition of common interests, and to give direction to the generalized and constant goal of human well-being.

It is well known that the activities of humans in outer space, per se, the moon and other celestial bodies, are not wholly free and unrestricted. Here, as elsewhere, the role of law is to constrain the atomistic impulses of the human species. Thus, the entire function of the international law of outer space throughout the space age has been directed toward the identification of spatial areas and the kinds of human-oriented and directed activities where limitations are to prevail. The purpose underlying the formulation of such restraints is, of course, to separate situations requiring limitations from those where limitations are considered to be unnecessary or unrealizable. In these circumstances, the emergence of a substantial body of international space law attests to the existence of an

amalgam of legal rights and duties flowing from competing wants, needs, interests, and values.

The considerations identified above, and others which are readily identifiable, have found expression in the search for a set of internationally approved principles governing remote sensing. States, as the principal actors in the establishment of international law, have identified their preferences within the framework of the doctrine of national sovereignty. Thus, sensing States have urged that their sovereignty enables them to engage in world wide sensing activities. Sensed States, on the other hand, have contended that their sovereignty should allow them some relief from the prying inquisitiveness of the space-resource States. This division has produced dialogue relating to the need for formal limitations, on the one hand, and the need to avoid unnecessary limitation, on the other.

Ambassador Eugeniusz Wyzner of Poland, the long-time chairman of the Legal Sub-Committee of COPUOS, has summarized the situation as follows:

The fundamental problem lies in the present disagreement that exists between States on the question whether there ought to be limitations on remote sensing activities; on the dissemination of data obtained from such activities; and on the dissemination of information derived from such data.²

I. LAW APPLICABLE TO REMOTE SENSING

International legal principles presently constrain unrestricted remote sensing activities. Some precepts stem from the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies.³ Others are founded on broadly based international legal principles.

Article 1 of the Principles Treaty specifies that the space environment is to be explored, exploited and used for the benefit and in the interests of all countries, irrespective of their degree of eco-

2. Wyzner, *Remote Sensing: Who Benefits? Earth-Oriented Space Activities and Their Legal Limitations*, in PROCEEDINGS OF THE SYMPOSIUM OF THE CENTER FOR RESEARCH OF AIR & SPACE LAW, MCGILL U. 119 (1981).

3. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205. (It entered into force for the United States on Oct. 10, 1967. Mexico is a party to the Agreement.); see also 6 INT'L LEGAL MATERIALS 386 (1967) [hereinafter cited as 1967 Principles Treaty].

conomic or scientific development and shall be the province of all mankind.⁴ These terms presuppose there will be a sharing of the benefits obtained. The provisions do not restrict a sensing State to areas in which it possesses sovereignty, nor do they prohibit the sensing State from sharing the benefits derived from sensing activities, such as the acquired basic data and the information derived from an analysis of such data.

Article 3 provides that international law (and this would include customary international law as well as the UN Charter) is to apply to space-environment activities.⁵ Specific reference is made to the need to engage in such activities in order to maintain international peace and security, and to promote international cooperation and understanding.⁶ The duty to maintain friendly relations and to engage in international cooperation on the basis of equal national rights stems from the UN Charter. The rights emanating from national sovereignty are also enshrined in the Charter.⁷ Thus, were remote sensing perceived as a threat to the security of a State, that State would have the legal power to take such national measures as would be necessary to protect it from harmful remote-sensing activities.⁸

Article 4 prescribes that the moon and other celestial bodies shall be used exclusively for peaceful purposes.⁹ Article 6 imposes international responsibility on States for national activities in the space environment.¹⁰ This Article allows space activities to be car-

4. See 1967 Principles Treaty, *supra* note 3, at 386.

5. *Id.* at 387.

6. *Id.*

7. *Id.* at 386.

8. See LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE (N. Matte & H. DeSaussure eds. 1976); Dausés, *National Sovereignty and Remote Sensing of Earth Resources by Satellites*, 16 PROC. COLLOQUIUM L. OUTER SPACE 121 (1974). The subject of remote sensing of Earth resources was considered by other scholars at the 1973 meeting of the International Institute of Space Law. See also Bordanov, *Practical Use of Space Vehicles in the Light of the Principle of State Sovereignty Over Natural Resources*, 16 PROC. COLLOQUIUM L. OUTER SPACE 103 (1974); Christol, *Space Sensing of Harms to the Marine Environment—Damages in International Law*, 16 PROC. COLLOQUIUM L. OUTER SPACE 106 (1974); Galloway, *Introductory Report*, 16 PROC. COLLOQUIUM L. OUTER SPACE 90 (1974); Hervy, *Aspects Juridiques des Satellites de Detection des Ressources Terrestres*, 16 PROC. COLLOQUIUM L. OUTER SPACE 137 (1974); Pikus, *Possibility of Technical Control Over Resources Surveying From Space*, 16 PROC. COLLOQUIUM L. OUTER SPACE 145 (1974); Tchermog, *La Teledetection des Ressources Terrestres par Satellites: Aspects Juridiques*, 16 PROC. COLLOQUIUM L. OUTER SPACE 151 (1974); Williams, *Earth-Surveying From Space in the Light of the Principle of Sovereignty*, 16 PROC. COLLOQUIUM L. OUTER SPACE 164 (1974).

9. 1967 Principles Treaty, *supra* note 3, at 387.

10. *Id.*

ried on by both national and international entities. In the first category, such activities may be those of both governmental agencies and nongovernmental bodies. Article 7, as supplemented by the 1972 Convention on International Liability for Damage Caused by Space Objects,¹¹ imposes international liability for damage resulting from space activities to States and to their natural and juridical persons.¹² Pursuant to Article 8, the State of registry of a launched space object is to retain jurisdiction and control over the object and its personnel while it is in the space environment.¹³ Article 9 generally places emphasis on UN Charter principles.¹⁴ It specifically requires, however, that States engaging in the exploration, exploitation, and use of the space environment are to be "guided by the principle of cooperation and mutual assistance and shall conduct all their activities . . . with due regard to the corresponding interests of all other States Parties to the Treaty."¹⁵ Article 11 imposes the duty on States engaged in conducting space-environment activities to make reports to the UN Secretary-General on the nature, conduct, locations and results of such activities.¹⁶ Many of the foregoing principles were incorporated into the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies.¹⁷

In all of these formal international agreements there is no prohibition against the outer space activity of remote sensing. States have engaged in this activity from the outset of the space age. The United Nations and regional international organizations, moreover, have endeavored to facilitate this activity. Enormous human and financial resources have been allocated to the function of remote sensing and to the dissemination of the data and information flowing from such activities.¹⁸

Sensing activities must be evaluated from the perspective of

11. Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762. (It entered into force for the United States on Oct. 9, 1973. Mexico is a party to the agreement.)

12. 1967 Principles Treaty, *supra* note 3, at 388.

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.* at 389.

17. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *opened for signature* Dec. 18, 1979, U.N. Doc. A/34/664 (1979); *adopted by U.N. General Assembly as G.A. Res. 34/68*, 34 U.N. GAOR Supp. (No. 46) at 77, U.N. Doc. A/34/46 (1979), *reprinted in* 18 INT'L LEGAL MATERIALS 1434 (1979).

18. For a recent assessment of developments between the late 1960's and 1982, see C. CHRISTOL, THE MODERN INTERNATIONAL LAW OF OUTER SPACE 720-64 (1982).

the importance accorded to national sovereignty respecting the natural wealth and resources located within the territorial boundaries of States. Remote sensing is perceived by developing countries as being potentially prejudicial to their economic progress and welfare, especially because they depend so heavily upon land-based minerals and ocean-based biological resources. Consequently, substantial efforts have secured the adoption of a large number of General Assembly resolutions dealing with national sovereignty over natural resources.¹⁹

The first UN resolution on this matter was Resolution 523 (VI) of January 12, 1952, entitled "Integrated Economic Development and Commercial Agreements."²⁰ The resolutions that followed have been increasingly detailed, with one of the more important being General Assembly Resolution 1803 (XVII) of December 14, 1962.²¹ This resolution, as well as more recent resolutions, bear the title "Permanent Sovereignty Over Natural Resources."²² This theme was also emphasized in two 1974 UN General Assembly Resolutions dealing with "The Establishment of a New International Economic Order"; namely, 3201 (S-VI)²³ and 3202 (S-VI).²⁴ Many of the resolutions on this subject, because of their controversial content, have failed to obtain the votes of important States.

II. THE MEXICAN ROLE IN REMOTE SENSING

The Latin-American countries have played an important role in formulating proposals for the legal regulation of remote sensing from outer space.²⁵ The 1970 Argentinian proposal was considered by a Working Group of the Legal Sub-Committee of COPUOS²⁶ in January and February of 1973.²⁷ The 1973 session also considered a preliminary draft of legal principles submitted by the Soviet

19. *Id.*

20. G.A. Res. 523, 6 U.N. GAOR, Supp. (No. 20) at 20, U.N. Doc. A/2119 (1952).

21. G.A. Res. 1803, 17 U.N. GAOR, Supp. (No. 17) at 15, U.N. Doc. A/5217 (1962).

22. *Id.*

23. G.A. Res. 3201 (S-VI), 29 U.N. GAOR, Supp. (No. 1) at 3, U.N. Doc. A/9559 (1974).

24. G.A. Res. 3202 (S-VI), 29 U.N. GAOR, Supp. (No. 1) at 3, U.N. Doc. A/9559 (1974).

25. C. CHRISTOL, *supra* note 18, at 721.

26. COPUOS, Progress Report of the Working Group on Remote Sensing of the Earth by Satellite on the Work of its Second Session, U.N. Doc. A/AC.105/111 (1973).

27. *Id.* For an appraisal of the early activities of the Working Group, see Fiorio, *International Implications of Earth Resources Surveys by Satellites*, 1 J. SPACE L. 1 (1973). An early analysis of the Argentinian viewpoint, including specific references to the role of national sovereignty over natural resources, is contained in Barbosa, *Los Satelites Equipados*

Union and cosponsored by France.²⁸ Each country put forward separate proposals in 1973 and presented a second joint draft in 1974.²⁹ On October 15, 1974, Argentina and Brazil combined in making a proposal which was cosponsored by Chile, Mexico and Venezuela.³⁰

The preamble to the Argentinian proposal of June 26, 1970, referred to prior resolutions of the UN General Assembly relating to permanent sovereignty over natural resources.³¹ Articles 3 and 6 of the submission referred to the establishment of an international data bank containing information on earth resources disclosed during sensing.³² The proposal also included a provision requiring that any dissemination of information should take into account the interests and needs of the developing countries.³³ Article 7 stressed the principles of equality of economic rights and self-determination by allowing individuals to exercise their legitimate and exclusive rights over their natural resources.³⁴ To assure this outcome, Article 8 concluded that the exploitation of the natural resources by each State in its territory and in its jurisdictional waters was to be governed by national laws and regulations.³⁵

The Brazilian proposal of February 4, 1974, was similar in a number of respects to the Argentinian proposal.³⁶ It identified the need to give special consideration to the benefits and interests of the developing countries.³⁷ It referred to General Assembly resolutions relating to the permanent sovereignty of people and nations over

con Sensores Remotos y los Recursos Naturales, 13 COLLOQUIUM L. OUTER SPACE 151 (1971).

28. COPUOS, *supra* note 26.

29. C. CHRISTOL, *supra* note 18, at 758.

30. COPUOS, Letter dated 15 Oct. 1974 from the Permanent Representative of Argentina and Brazil to the United Nations addressed to the Secretary-General, U.N. Doc. A/C.1/1047 (1974). S. Gorove, *Legal and Economic Implications of Remote Sensing from Outer Space—Focus on Latin America*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 75 (N. Matte & H. DeSaussure eds. 1976).

31. COPUOS, Draft International Agreement on Activities Carried Out Through Remote-Sensing Satellite Surveys of Earth Resources, (Agenda Item 3), U.N. Doc. A/AC.105/C.2/L.73 (1970).

32. *Id.*

33. *Id.*

34. *Id.*

35. *Id.*

36. COPUOS, Letter dated 1 February 1974 from the Permanent Representative of Brazil addressed to the Secretary General, U.N. Doc. A/AC.105/122 (1974); 1974 Remote-Sensing Satellite Surveys, *supra* note 1, at 3.

37. *Id.*

their natural resources.³⁸ Further, it introduced suggestions which have remained a bone of contention to the present: the requirement of State consent to foreign sensing.³⁹ In addition, Article 7 provided that a sensing State could not disclose information gained by it to any third State, international organization or private party "without the express authorization of the State Party to which the natural resources belong, nor can they utilize the information thus obtained to the detriment of the latter."⁴⁰

The emphasis by these two Latin-American countries on the right of permanent sovereignty of peoples and nations over their wealth and natural resources was also reflected in the French submission of May 15, 1973,⁴¹ and the Soviet proposal of April 13, 1973.⁴² The right respecting wealth and natural resources was further extended by France and the Soviet Union in their joint working papers of May 27, 1974, to include information relating to natural resources.⁴³ Thus, States engaged in remote sensing were called upon to "respect the principle of sovereignty of States and especially the right of peoples and States to exercise permanent sovereignty over their wealth and resources." This was cited as a "basic element of their right to self-determination as well as their inalienable right to dispose of their natural resources and of information concerning those resources."⁴⁴ The joint proposal rejected the view that special preferences should be accorded to developing countries, and affirmed that benefits should be accorded to all countries, irrespective of their degree of economic or scientific development.⁴⁵

It was in the context of the foregoing that the five Latin-Amer-

38. *Id.*

39. *Id.*

40. *Id.* at 4.

41. COPUOS, Draft Principles Governing Remote Sensing of Earth Resources from Outer Space, U.N. Doc. A/AC.105/L.69 (1973); 1974 Remote-Sensing Satellite Surveys, *supra* note 1, at 5.

42. U.N. Doc. A/AC.15/C.2/L.88, Apr. 13, 1973; 1974 Remote-Sensing Satellite Surveys, *supra* note 1, at 9.

43. COPUOS, Draft Principles Governing the Activities of States in the Field of Remote Sensing of Earth Resources by Means of Space Technology, (Agenda Item 5), U.N. Doc. A/AC.105/C.2/L.99 (1974); 1974 Remote-Sensing Satellite Surveys, *supra* note 1, at 9-10.

44. *Id.*

45. The differences appearing in the 1974 drafts have been assessed by D. M. Polter. See Polter, *Remote Sensing and State Sovereignty*, 4 J. SPACE L. 103-05 (1976). He also analyzes the role of information in diverse systems. *Id.* at 114-15.

ican States submitted a new proposal on October 15, 1974.⁴⁶ One can only speculate as to the precise effect that Chile, Mexico and Venezuela had on the drafting of the new proposal. However, when the five-partite submission is compared with the earlier separate proposals of Argentina and Brazil, it is clear that several of the prior proposed principles were retained.⁴⁷ Among these were references to: (1) the need to give special consideration to the interests and needs of the developing countries; (2) the expectation that a sensed State would be entitled to prohibit foreign remote sensing unless the consent of the sensed State had been obtained; and (3) the right of the sensed State to give its express authorization to the sensing State before the latter could transmit or transfer information gained to a third State, international organization, or private entity.⁴⁸ In the new joint proposal, the earlier South American references to UN General Assembly resolutions dealing with permanent sovereignty of peoples and nations over their own natural resources were transferred from the substantive provisions to the preamble. However, in the 1974 five-partite proposal, reference was made to the need to prevent the exploitation of natural resources causing the spoliation or destruction of the natural environment.⁴⁹ Further, Article 4 went into considerable detail on the rights of sensed States to their natural resources. It provided:

Activities of remote sensing of natural resources by means of space technology must be based on the principle of sovereign equality of States and of the honorable fulfillment of international commitments, as well as other relevant principles of international law regarding friendly relations and cooperation among States. The principles of sovereign equality of States and self-determination of peoples embrace not only the right to internal sovereignty and independence, but also the economic aspects of the freedom to use and distribute their wealth, whereby peoples may exercise their legitimate and exclusive sovereign rights over their own natural resources.⁵⁰

The five-State draft provided that sensed States were to have important rights to the data acquired by the foreign sensing State.⁵¹ Thus, the sensed State was entitled to full and unrestricted access to

46. See S. Gorove, *supra* note 30, at 1.

47. C. CHRISTOL, *supra* note 18, at 758 n.6.

48. *Id.*

49. See S. Gorove, *supra* note 30, at 1.

50. *Id.*

51. *Id.*

all data obtained by the sensing State. The sensing State was prohibited from disclosing acquired information to third parties without the express authorization of the sensed State. A third party would be allowed to solicit information from the sensing State only upon receiving the express authorization of a sensed State. However, unlike the May 27, 1974, joint proposal of France and the Soviet Union, the five-partite draft did not assert that the information obtained about natural resources was to be accorded the same treatment as the natural resources per se.⁵²

The extent of the Mexican influence on the five-State draft is hard to glean from the official statements of Mexican representatives at the UN. In an intervention before the Scientific and Technical Sub-Committee on April 18, 1974, the Mexican representative referred to four levels of national capabilities in the application of space technology.⁵³ These ranged between States possessing advance knowledge to those totally unequipped or uninformed on the subject.⁵⁴ At the same time, Mexico and Argentina continued to give full support to the Brazilian view that the study of the legal aspects of remote sensing should take priority over other inquiries.⁵⁵

When the Legal Sub-Committee's working group on remote sensing submitted its report in March of 1975, it identified five common elements in the joint French-Soviet draft, in the five-partite Latin-American draft, and in a separate U.S. proposal.⁵⁶ The five agreed upon common elements were that: (1) remote sensing should be conducted for the benefit and in the interest of all mankind with attention being given to the significance of sensing capabilities on developing countries; (2) remote sensing should be conducted in accordance with international law, including the UN Charter and the 1967 Principles Treaty; (3) international cooperation, particularly regional, would assure maximum benefits from sensing; (4) national sensing programs should encourage international participation; and (5) the Earth's natural environment should

52. C. CHRISTOL, *supra* note 18, at 758 n.6.

53. COPUOS, Report of the Working Group on Remote Sensing of the Earth by Satellites, at 59, U.N. Doc. A/AC.105/C.1/SR.124 (1974).

54. *Id.*

55. *Id.* at 67.

56. U.N. Doc. A/AC.105/147, Annex 3, at 2 (1975). The U.S. Working Paper was published as LEGAL IMPLICATIONS OF REMOTE SENSING OF THE EARTH FROM SPACE. *Remote Sensing of the Natural Environment of the Earth from Outer Space*, (Agenda Item 4), U.N. Doc. A/AC.105/C.2/L.103 (1975).

be protected through remote sensing.⁵⁷ From this recitation it will be seen that none of the unique proposals contained in the Latin-American submissions were able to obtain even a tentative consensus.

When the Scientific and Technical Sub-Committee met in April of 1975, the Mexican representative again emphasized the need to arrange for an agreement containing a legal framework for national remote-sensing activities.⁵⁸ The point was made that the terms of the UN Charter of Economic Rights and Duties of States adopted by the General Assembly on December 12, 1974, and particularly Article 13, were relevant.⁵⁹ Article 13 states that every country has the right to benefit from advances and progress in science and technology in order to accelerate its economic and social development.⁶⁰ The resolution also makes reference to the transfer of technology and its importance to the developing countries.⁶¹

By 1975 it was becoming clear that the United States favored a policy of open dissemination of the data and information produced by remote sensing.⁶² Moreover, in its view, access to such materials was to be on an equal basis.⁶³ Without such freedom to engage in sensing and to disclose the information obtained, it was foreseen that only the advanced States would obtain the benefits of science and technology.⁶⁴ Thus, the proposition was rejected that "if each State had a right to prohibit dissemination to third parties of data about its territory, then those States would be more secure and better off."⁶⁵ The same position was proposed by the United States before the Scientific and Technical Sub-Committee, where it was observed that a system requiring prior consent of sensed States would produce vast difficulties. Such a system might result in a reduction of the sensing activities which are so important to the reali-

57. U.N. Doc. A/AC.105/147, Annex 3, at 2 (1975).

58. COPUOS, Summary of Studies on Cost Effectiveness in Remote Sensing, U.N. Doc. A/AC.105/139/Add.1 (1975).

59. COPUOS, Remote Sensing of the Earth by Satellites, at 96, U.N. Doc. A/AC.105/C.1/SR.145 (1975). The Charter of Economic Rights and Duties G.A. Res. 3281, 29 U.N. GAOR Supp. (No. 31) at 50, U.N. Doc. A/9631 (1975), *reprinted in* 14 INT'L LEGAL MATERIALS 251 (1975).

60. *Id.*

61. *Id.*

62. COPUOS, Legal Implications of Remote Sensing of the Earth from Space at 63, U.N. Doc. A/AC.105/C.2/SR.233 (1975) (Statement of U.S. Representative before the Legal Sub-Committee on Feb. 19, 1975).

63. *Id.*

64. *Id.*

65. *Id.*

zation of benefits and the development of economic progress of the Third World nations.⁶⁶ These interventions were consistent with the United States position advanced in 1976 in the Legal Sub-Committee.⁶⁷ It was noted that the United States “had never recognized that the principle of the sovereignty of a State over its natural resources applied to remote sensing activities.”⁶⁸

Beginning in 1976 the Working Group of the Legal Sub-Committee endeavored to negotiate an agreed upon set of principles.⁶⁹ At the close of the 1976 discussions, the Working Group offered a statement containing eight common elements.⁷⁰ In 1977 this number was increased to eleven.⁷¹ In 1978, at the instance of Austria, a statement of seventeen principles was put forward. Seventeen principles graced the reports of 1979, 1980 and 1981; however, much of the substance of the documentation was set forth in square brackets indicating that the members of COPUOS had failed to reach a consensus on the indicated content.⁷²

The 1981 statement of principles, which had borrowed heavily from the 1978 Austrian draft, indicated a general agreement on the following: (1) the definitions of remote sensing, primary data, and analyzed information; (2) that remote sensing provides general benefits, and serves the particular needs of the developing countries; (3) sensing activities should be subject to international law, the UN Charter, the 1967 Principles Treaty, and the 1973 ITU Convention;

66. COPUOS, Summary Record of the 200th Meeting, at 5, U.N. Doc. A/AC.105/C.1/SR.200 (1978); *cf.*, *Resource Sensing From Space, Prospects for Developing Countries*, National Academy of Sciences (1977).

67. COPUOS, Summary Record of the 264th Meeting at 4, U.N. Doc. A/AC.105/C.2/SR.264 (1976). A more detailed assessment of the U.S. position is set forth in M. LEIGH, *United States Policy of Collecting and Disseminating Remote Sensing Data*, in *Legal Implications of Remote Sensing from Outer Space*, *supra* note 8, at 147.

68. *Id.*

69. COPUOS, *Legal Implications of Remote Sensing of the Earth from Space*, Annex 4, at 1, U.N. Doc. A/AC.105/171 (1976); U.N. Doc. A/AC.105/197, Annex 3, at 1, Apr. 11, 1977; COPUOS, *Report of the Chairman of the Working Group III*, Annex 3, at 1, U.N. Doc. A/AC.105/218 (1978); COPUOS, *Legal Implications of Remote Sensing of the Earth from Space, with the Aim of Formulating Draft Principles*, Annex 4, at 1, U.N. Doc. A/AC.105/240 1979; COPUOS, *Report of the Chairman of the Working Group on Remote Sensing*, Annex 2, at 1, U.N. Doc. A/AC.105/271 (1980); COPUOS, *Report of the Chairman of the Working Group on Remote Sensing*, Annex 1, at 1, U.N. Doc. A/AC.105/288 (1981); U.N. Doc. A/AC.105/305, Annex 1, at 1, Feb. 24, 1982. For an assessment of the developments between 1976 and 1982, see C. CHRISTOL, *supra* note 18, at 735-57

70. *Id.*

71. *Id.*

72. The situation as it stood in 1978 was assessed by Vlasic, *The Evolution of the International Code of Conduct to Govern Remote Sensing by Satellite: Progress Report*, 3 ANNALS AIR & SPACE L. 561 (1978).

(4) opportunities for sharing in sensing programs should be encouraged; (5) that attention should be given to the protection of the Earth's natural environment; (6) that technical assistance must be provided on mutually agreed upon terms; (7) that the UN must promote technical assistance, with sensing entities to provide notice to the UN; (8) that notice must be provided so that protective measures might be taken against natural disasters; (9) that sensing States shall not abuse the legitimate rights and interests of the sensed States; and (10) that sensing States are to disclose technical information relating to sensing operations to developing countries.⁷³

The remaining "principles" were severely restricted by the presence of square brackets. This was evidence of a lack of agreement respecting proposed Principle 11 dealing with the international responsibility of States for the activities of their nationals. Clarity was also lacking as to the respective rights and duties of States, as set forth in Principle 12, concerning the conditions under which a sensed State was to have access to acquired data and analyzed information.⁷⁴ Doubts also remained as to the meaning to be accorded to Principle 13 dealing with notice of launch to the UN and to sensed States, Principle 14 dealing with consultation upon the request of a sensed State, Principle 15 relating to the nondisclosure to third parties of findings relating to natural resources; Principle 16 relating to the significance to be accorded to the concept of national sovereignty over natural resources; and to Principle 17 dealing with the duty of prompt consultations relating to dispute resolution, or the utility of other comparable procedures which might be mutually agreed upon.⁷⁵

Thus, by the time the Mexican set of principles was promulgated in 1981, the basic principle that remote sensing was lawful had been well established.⁷⁶ However, there remained a major need for the clarification of concerns over national security resulting from the gathering and dissemination of collected data. Major accommodations were also required respecting the doctrine of permanent sovereignty over national resources, as well as the identification of a forum allowing for the pricing of the benefits to be distributed. It was in this context that the Mexican working paper,

73. COPUOS, Principles Relating to Remote Sensing of the Earth, Its Natural Resources and Its Environment, Annex 1, at 1, U.N. Doc. A/AC.105/228 (1981).

74. See C. CHRISTOL, *supra* note 18, at 735-57.

75. *Id.*

76. *Id.*

consisting of seventeen proposed principles, reached the Legal Sub-Committee on March 19, 1981.⁷⁷ The significance of the Mexican proposal can best be identified by comparing it with the 1981 draft of the Legal Sub-Committee.⁷⁸ Although first enunciated in 1981, the Mexican proposal, was not considered in the Legal Sub-Committee until 1982.⁷⁹

In comparing the Mexican submission with those that had evolved prior to 1981, it becomes clear that new directions had been suggested by Mexico and that the integrity of the Latin-American proposals was preserved.⁸⁰ An article by article comparison between the text under consideration by the Legal Sub-Committee in 1981,⁸¹ and the 1981 Mexican submission clarifies the particular perspectives of Mexico. The Mexican proposal adopted a number of the perspectives contained in the earlier drafts. It selected a number of new terms which presumably were employed to clarify some of the phraseology of the preceding drafts.⁸² The proposal also added substantive changes designed to afford greater protection to a sensed State.⁸³ Substantial attention was given to the subject of the consent of the sensed State regarding sensing and the disclosure of materials resulting from sensing activities.⁸⁴ In this area, additional attention was focused on the need for a sensing State to give prior notice to States and to the United Nations of indicated activities.⁸⁵ Portions of the Mexican proposal regarding the giving of prior notice were inconsistent with existing treaty law, notably Article 11 of the 1967 Principles Treaty.⁸⁶ By its acceptance of portions of previously submitted proposals, and with its own orientation, the Mexican submission was designed to benefit the nonresource States.

A more detailed assessment of the Mexican statement of principles reveals that Principle 1 favored a shortened and more concise definition of the term "remote sensing of the Earth" than prior

77. U.N. Doc. WG/RS (1981)/WP. 2, Mar. 19, 1981; COPUOS, *supra* note 73, Annex 1, at 13. The proposal was entitled *Principles Relating to Remote Sensing of the Earth, Its Natural Resources and Its Environment*.

78. See C. CHRISTOL, *supra* note 18, at 735-57.

79. *Id.*

80. COPUOS, *supra* note 73, Annex 1, at 7.

81. *Id.*

82. *Id.* at 750.

83. *Id.* at 749-54.

84. *Id.*

85. *Id.* at 753.

86. *Id.* at 749-54; see also 1967 Principles Treaty, *supra* note 3, at 389.

drafts.⁸⁷ This term was defined as the “remote sensing of the earth, its natural resources and its environment from outer space.”⁸⁸ Omitted from the definitional approach were the prior references to “primary data” and “analyzed information.” The proposal consistently substituted “shall” for “shall/should,” the alternative terms contained in earlier submissions.

Principle 2 changed the 1981 sub-committee draft reading that remote sensing “should/shall” be carried out for the benefit and interests of all countries “irrespective of their degree of economic or scientific development and taking into consideration the particular needs of the developing countries,” into merely “the needs of the developing countries.”⁸⁹ This policy viewpoint has not been confined to Latin American countries. Apart from being accepted by the States composing the Committee of 77, the nonaligned countries have also adopted this policy as a primary objective.⁹⁰

Principle 3 identified the applicable law on remote sensing; namely, international law, the UN Charter, the 1967 Principles Treaty, as well as the Mexican principles. Omitted from the statement was the sub-committee reference to the relevant instruments of the ITU.

Principle 4 deals with cooperative space activities.⁹¹ Mexico proposed that the terms of the 1981 draft should be amended to “sensed” States rather than calling on the space-resources States to make available to “other” States opportunities for participation in these programs.⁹²

The fifth Mexican principle was designed to afford greater protection to the environment than had been posited in the sub-committee draft.⁹³ Although consistent with the earlier submissions, the Mexican proposal would accord protection to the Earth, its natural resources, and its natural environment. To secure the performance of the proposed duty, it was suggested that States were to make available “to the competent United Nations authorities” any infor-

87. See C. CHRISTOL, *supra* note 18, at 749-54.

88. *Id.*

89. The sub-committee expression “taking into consideration the particular needs of the developing countries” can be traced back to paragraph seven of the General Assembly Resolution entitled *Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Beyond the Limits of National Jurisdiction*, G.A. Res. 2749, 25 U.N. GAOR Supp. (No. 28) at 24, U.N. Doc. A/8097 (1970).

90. *Id.*

91. See C. CHRISTOL, *supra* note 18, at 750.

92. *Id.*

93. *Id.*

mation useful for the prevention “and control” of phenomena detrimental to the natural environment.⁹⁴

Principle 6 restated the provision contained in earlier drafts relating to the availability to nonresource States of technical assistance.⁹⁵ A caveat was added, however, which provided that the assurances contained in the principle were without prejudice to the rights of sensed States as set forth in the complete statement of principles.

Principle 7 is one of numerous principles designed to publicize the fact that remote sensing programs were being conducted. This principle called upon States engaged in remote sensing programs of the Earth to give prior notice to the UN Secretary-General.⁹⁶ This approach would have modified the requirements set forth in Article 11 of the 1967 Principles Treaty, which did not call for prior notice.⁹⁷ The Mexican submission is also inconsistent with the Convention on Registration of Objects Launched into Outer Space, where the requirement of notice was not that of “prior” notice. Principle 7 further specified that the Secretary-General should publish the notification.⁹⁸

Principle 8 also deals with notice, although the terminology is that of information. Thus, when a programmatic State becomes aware of natural disasters, it is obliged to communicate this information to affected States and to the UN. No requirement to disclose data is suggested, although this prescription had been set out in the earlier drafts of the sub-committee.⁹⁹

Principle 9 used the expression “results” to identify the data and information resulting from sensing activities.¹⁰⁰ In this principle the focus was on the developing countries attaining the “results” acquired by advanced States through remote sensing. Principle 9 called for the use of such results by the sensing States “with strict respect for sovereign rights.”¹⁰¹ This innovative proposal was combined with the previously ventilated concern for uses which were compatible with the legitimate interests of other States.

94. *Id.*

95. *Id.*

96. *Id.* at 751.

97. 1967 Principles Treaty, *supra* note 3, at 389.

98. See C. CHRISTOL, *supra* note 18, at 750-51.

99. *Id.* at 751.

100. *Id.*

101. *Id.*

The prior sub-committee drafts had made references to both the “rights” and “interests” of other States.

Although Principle 9 takes into account nondisclosure, the tenth principle goes in the opposite direction. It calls for the dissemination of technical information.¹⁰² The earlier sub-committee drafts had identified the need to effect disclosures of “any technical information involving possible operational systems.”¹⁰³ However, the Mexican draft would have imposed a much greater duty on sensing States. It suggested that States engaging in sensing activities “shall make available” technical information. This is in opposition to the terms of the sub-committee draft which merely indicated that States “shall be prepared to make available the data and information.”¹⁰⁴ Further, the Mexican submission did not contain the language of the sub-committee’s draft which indicated that sensing States were merely to provide the technical information “which they are free to disclose.”¹⁰⁵

Principle 11 dealt with the traditional problem of imposing international responsibility for activities carried on by States and international organizations.¹⁰⁶ The principal difference between the Mexican and the sub-committee draft was the substitution of the expression “ensuring that national activities are carried out in conformity with the present principles,”¹⁰⁷ for the square-bracketed term “guarantee that such activities will comply with the provisions of these principles.”¹⁰⁸ Additionally, the Mexican draft in dealing with “activities” rather than “programs” carried on by international organizations, made express reference to the terms of Article 6 of the 1967 Principles Treaty.

A major difference in the two drafts is that the Mexican submission made no reference to the earlier proposals that a sensed State was to have timely and nondiscriminatory access to primary data concerning its territory on suitable terms no later than access would be granted to any third State.¹⁰⁹ The sub-committee’s 1981 draft made provision for the foregoing as well as the accompanying right to receive analyzed information.

102. *Id.*

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. *Id.*

108. *Id.*

109. *Id.* at 751-52.

Without making use of the expression "access," the Mexican draft Principle 14 was designed to achieve substantial benefits. It reads: "States carrying out programs for remote sensing of the Earth shall provide States, which are subject to remote sensing with the preliminary information and final results and conclusions relating to the natural resources of the territory, territorial sea and maritime areas under the jurisdiction of the sensed State."¹¹⁰

In Principle 12 of the Mexican draft, attention was again called to the provision of notice by a sensing State to a sensed State.¹¹¹ In this principle the proposed requirement is that of "advance notification." Similar to Principle 14, the subjected geographical area consisted of national "territory, territorial sea and maritime areas under the jurisdiction of the sensed State."¹¹²

In the thirteenth Mexican principle a new function of "consultation" was identified. The duty was imposed on the sensing State, upon request, to consult with a sensed State. This duty related to the prescription set out in Principle 14, whereby the sensing State was to provide sensed States with the "preliminary information and final results and conclusions relating to the natural resources" of the identified areas.¹¹³ The intent underlying this policy was to "promote international cooperation and friendly relations among States and to enhance the mutual benefits to be derived from this activity."¹¹⁴

Principle 15 of the Mexican draft was founded on the perceived need for privacy on the part of developing countries. This principle, similar to those found in the previously considered subcommittee provision, was designed to restrict disclosures of sensed data and information. Principle 15 declares: "States carrying out remote sensing of the Earth shall not, without the approval of the sensed State, disseminate information or results and conclusions regarding the natural resources of that State."¹¹⁵ This provision departed from the square-bracketed subcommittee draft in four respects. First, it omitted reference to the "territories" of the State affected by sensing activities. Second, it did not impose prohibitions against the disposition of "any data" acquired through sensing. Third, it substituted for "data" the expression "results and

110. *Id.*

111. *Id.* at 752.

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.* at 752-53.

conclusions.” Fourth, it did not restate the sub-committee’s prohibition against disclosure to “third States, international organizations, public or private entities.”¹¹⁶ The Mexican draft imposed more restrictions on disclosure than had previously been presented to the sub-committee.

Principle 16 was designed to protect the perceived interests of developing countries in national sovereignty over natural resources. Unlike the sub-committee’s square-bracketed draft principles, the Mexican submission enlarged the expression “remote sensing of the Earth” to include “exploration and use of the Earth, including the territories and resources of sovereign States.”¹¹⁷ Further, the Mexican draft extended the meaning of the concept of full and permanent national sovereignty over wealth and natural resources to include “economic activity.”¹¹⁸

The final Mexican principle dealt with dispute resolution. It enlarged the sub-committee’s seventeenth principle by making specific reference to the UN Charter and to the October 24, 1970, Declaration on Principles of International Law Concerning Friendly Relations and Cooperation Among States in Accordance with the Charter of the United Nations.¹¹⁹ The Mexican draft called for disputants to hold consultation rather than “prompt consultations.” It also called for an extended reference to alternative procedures. Thus, it suggested for the first time, that if consultations were not adequate to bring about a resolution of a dispute, States were to have recourse to other means “until a peaceful solution to the dispute is found.”¹²⁰

III. CONCLUSION

From the foregoing, it is apparent that the underlying theme of the Mexican submission is to impose constraints on the sensing activities of States and to ensure that sensed States are not prejudiced by the disclosure of materials obtained through the sensing process. These restrictions can be summarized as follows: (1) a sensing State is to provide “advance notification” to a sensed State of forthcoming activities; (2) a sensing State is to consult with a sensed State upon the request of the latter; (3) a sensing State is to provide

116. *Id.* at 752.

117. *Id.* at 753.

118. *Id.*

119. *Id.*

120. *Id.*; U.N. Doc. A/Conf. 101/L.3 (1982), *reprinted in* 10 J. SPACE L. 250 (1982).

a sensed State with “preliminary information and final results and conclusions” relating to the natural resources falling under the jurisdiction of the sensed State; (4) a sensing State is prohibited from disclosing its findings without the approval of the sensed State; (5) the enlargement of a State’s full and permanent sovereignty over its wealth and natural resources is to include “economic activity” and (6) there is the duty of disputants to pursue peaceful processes of dispute resolution until a “solution” is found.

The Mexican draft does not explicitly recognize the right of one State to engage in remote sensing of the area and resources of another State. Yet, by seeking to impose specific limitations on such sensing, the existence of the right to engage in peaceful sensing activities was acknowledged. Ultimately, the Mexican submission did not subscribe to an absolute right of privacy.

Some of the Mexican efforts to substitute new terms for those that had gained recognition during the sub-committee deliberations appear to have questionable value. Thus, the substitution of “results” in Principle 9 for the previously employed “data or information” would impose constraints on the finalization of valid distinctions between “primary data” and “analyzed information.”

Following its 1981 submission of principles, the Mexican government served as the spokesman for the Committee of 77 at the 1982 Unispace Conference. At that time a proposal was submitted indicating the firm allegiance of the less-developed countries to the principle that remote sensing should be carried out in accordance with the sovereign rights of States. Further, it was pointed out that this large group of States believed “that sensed States should have timely and unhindered access on a priority basis at nominal cost to all data and information obtained over their territories.”¹²¹ Concern was also expressed as to the access of third parties to the data and information resulting from sensing activities. The viewpoint of Mexico and the Group of 77 was that such disclosures were not to take place without “prior consent of the sensed country.”¹²² They also indicated their belief that the subject of remote sensing should be given a high priority in COPUOS so that a statement of principles might be finalized.

Whether the announced goal is to be realized in the near future appears to be debatable. Mexico has been able to provide leadership on this subject for a large number of the world’s devel-

121. *Id.*

122. *Id.*

oping countries. Unfortunately, the focus is more on the maintenance of a closed society than on the search for an accommodation with the world's more advanced and powerful States. The gap between opposing views on wants, needs, interests and values has not been closed. Pending the negotiation of a formal set of principles, it may be predicted that the advanced States will continue to expand their already very large sensing capabilities. Over time it may be possible to persuade all, or at least a substantial number, that the benefits to be derived from the sharing of data and information acquired via the sensing process is of greater importance than the present inclination to seek out a degree of privacy, which, in fact, is not likely to be found on this Earth.