

## REMOTE SENSING AND NATIONAL SOVEREIGNTY OVER NATURAL RESOURCES: ASSESSMENT OF THE MEXICAN VIEW

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Remote sensing of the earth by orbiting satellites is one of the technological extensions of man's penetration of outer space. Equipped with devices that sense the earth's surface in different frequency ranges, including spectral bands not visible to the human eye,<sup>1</sup> these satellites are able to obtain data about the earth's environment, the nature and conditions of natural resources, and other natural and man-made features and phenomena. Remote sensing is particularly well-suited for identifying and locating natural resources around the world.<sup>2</sup> The identification and development of natural resources are of vital concern to all the world's peoples. Currently, the world's population is expanding while the relative supply of foodstuffs and raw materials is dwindling. As this trend continues, scarcity of basic necessities will become a pressing human problem. In the quest to combat this scarcity, remote sensing can become an important tool to improve living conditions and economic and social development everywhere.

There are, however, important international legal and political considerations which surround the technique of remote sensing. Questions of national sovereignty and other issues of international law must be settled before remote sensing data can be optimally used.

The Legal Sub-Committee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) has recently considered the adoption of legal principles regarding remote sensing.

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1. Mossinghoff & Fuqua, *United Nations Principles on Remote Sensing: Report on Developments, 1970-1980*, 8 J. SPACE L. 103, 103 (1980).

2. Natural resources are defined generally as "animal, plant and mineral assets and artifacts that can be put to human use," such as "air, soil, water, metallic deposits, petroleum products, fish and animals." Brooks, *Technological and Legal Aspects of Environmental Monitoring*, 1 J. SPACE L. 6, 6 (1973).

By 1980, the Soviet Union,<sup>3</sup> Argentina,<sup>4</sup> Brazil,<sup>5</sup> and France,<sup>6</sup> France and the Soviet Union jointly,<sup>7</sup> and Argentina and Brazil jointly (cosponsored by Chile, Mexico, and Venezuela,<sup>8</sup> and the United States<sup>9</sup>) had submitted draft legal principles for the Committee's consideration. Mexico submitted the most recent draft on March 19, 1981. The Mexican draft entitled, "Principles Relating to Remote Sensing of the Earth, Its Natural Resources and Its Environment,"<sup>10</sup> contains seventeen principles. The Mexican principles not only address the substantive content of the consolidated "Draft Principles" which have been under consideration since 1979,<sup>11</sup> but also offer substantial modifications and new considerations. The Mexican submission "will be treated as an important contribution, since it was the most comprehensive effort to modify the essentially unchanged subcommittee drafts from 1979 through 1981."<sup>12</sup>

Although the legal and political aspects of remote sensing and national sovereignty over natural resources are thoroughly intertwined, they may, for analysis purposes, be considered separately. The literature which deals with the legal arguments on remote sensing is ample.<sup>13</sup> Emphasis, therefore, is on principal legal issues in

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3. Committee on the Peaceful Uses of Outer Space (COPUOS), Progress Report of the Working Group on Remote Sensing of the Earth by Satellites on the Work of its Second Session, at 11-12, U.N. Doc. A/AC.105/111 (1973).

4. COPUOS, Report of the Legal Sub-Committee on the Work of its Thirteenth Session, at 1-3, U.N. Doc. A/AC.105/133 (1974).

5. *Id.* at 3-5.

6. *Id.* at 5-6.

7. *Id.* at 9-10.

8. COPUOS, International Cooperation in the Peaceful Uses of Outer Space, (Agenda Item 32), U.N. Doc. A/C.1/1047 (1974).

9. COPUOS, Legal Implications of Remote Sensing of the Earth From Space, (Agenda Item 4), U.N. Doc. A/AC.105/C.2.L.103 (1975).

10. COPUOS, Report of the Legal Sub-Committee on the Work of its Twentieth Session, at 13-16, U.N. Doc. A/AC.105/288 (1981).

11. *Id.* at 7-12.

12. C. CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 754 (1982). For an excellent comparison between the Mexican submission and the consolidated "Draft Principles", see *id.* at 749-54.

13. For a variety of legal viewpoints on the issue of remote sensing and national sovereignty over natural resources, see Christol, *The Case for a Possible Integrated North-American Landsat Program*, in *LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE* 131 (N. Matte & H. DeSaussure eds. 1976); Cocca, *Remote Sensing of Natural Resources by Means of Space Technology: A Latin American Viewpoint*, in *LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE* 75 (N. Matte & H. DeSaussure eds. 1976); Galloway, *Remote Sensing from Outer Space: Legal Implications of Worldwide Utilization and Dissemination of Data*, in *LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE* 91 (N. Matte & H. DeSaussure eds. 1976); Gorove, *Legal and Economic Implications of Remote*

the context of the Mexican submission. Political considerations are also of great significance. The position taken by a state varies depending upon its present economic status, its particular economic and political history, and whether it is a sensing or a sensed state.

## I. LEGAL CONSIDERATIONS

### A. *The Concept of Sovereignty and Remote Sensing*

Sovereignty is a concept of international relations which traditionally has caused considerable intellectual and political confusion. It cannot be defined in specific legal terms, although states refer to it in that light. This is especially true when states seek to justify actions or political stances which may be of questionable legality.

Sovereignty is best understood as "a permanent rule organized on the basis of legal principles and exercised over a specific territory, characterized outwardly by a certain degree of effective independence and inwardly by effective rule."<sup>14</sup> It has become the cornerstone of the modern international system, where power and authority remain consciously divided and decentralized.

National sovereignty is the principle which is often cited to

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*Sensing from Outer Space—Focus on Latin America*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 75 (N. Matte & H. DeSaussure eds. 1976); Leigh, *United States Policy of Collecting and Disseminating Remote Sensing Data*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 147 (N. Matte & H. DeSaussure eds. 1976); Robinson, *For a Worldwide Utilization and Dissemination of Data Acquired Through Remote Sensing*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 113 (N. Matte & H. DeSaussure eds. 1976); Zhukov, *Problems of Legal Regulation of Using Information Concerning Remote Sensing of the Earth from Space*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 125 (N. Matte & H. DeSaussure eds. 1976); Cocca, *Legal Problems Relating to the Evaluation, Conservation and Development of Earth Resources by Means of Space Objects*, 14 PROC. COLLOQUIUM L. OUTER SPACE 99 (1971); Dausés, *National Sovereignty and Remote Sensing of Earth Resources by Satellites*, 16 PROC. COLLOQUIUM L. OUTER SPACE 121 (1973); de Graaf & Reijnen, *Data Protection in the Technique of Remote Sensing by Satellites* 22 PROC. COLLOQUIUM L. OUTER SPACE 187 (1979); DeSaussure, *Remote Sensing by Satellites: What Future for an International Regime?*, 71 AM. J. INT'L L. 707 (1977); Galloway, *Introductory Report*, 16 PROC. COLLOQUIUM L. OUTER SPACE 90 (1973); Gorove, *Earth Resources Survey Satellites and the Outer Space Treaty*, 1 J. SPACE L. 80 (1973); Kosuge, *Remote Sensing and International Law*, 20 PROC. COLLOQUIUM L. OUTER SPACE 316 (1977); Magdelenat, *The Major Issues in the "Agreed" Principles on Remote Sensing*, 9 J. SPACE L. 111 (1981); Matte, *Remote Sensing by Satellites and Aerospace Law*, 19 PROC. COLLOQUIUM L. OUTER SPACE 325 (1976); Polter, *Remote Sensing and State Sovereignty*, 4 J. SPACE L. 99 (1976); Stoebner, *Remote Sensing of Earth Resources: Technique and Law*, 19 PROC. COLLOQUIUM L. OUTER SPACE 33 (1976); Stowe, *The Development of International Law Relating to Remote Sensing of the Earth from Outer Space*, 10 PROC. COLLOQUIUM L. OUTER SPACE 92 (1976).

14. Polter, *Remote Sensing and State Sovereignty*, 4 J. SPACE L. 99, 111-12 (1976).

support positions taken by states on the issue of remote sensing of natural resources. To justify reference to sovereignty, however, the concept must be viewed in terms of both rights over a specific territory and independence sufficient to withstand pressures from other states which claim similar rights and independence. When interests of states overlap, the national sovereignty of one or more of the states must be compromised. Sovereignty, therefore, is never absolute. The intervening consideration is power.

To assert a sovereign right, states may rely upon a right founded on some legal theory, but it must be backed by political power. Sovereignty based upon theoretical right is greatly diminished when compared to sovereignty based upon the power to control. Some states seem to be "more sovereign" than others. It must be stressed, therefore, that sovereignty, especially as it relates to territorial sovereignty, is a relative concept.<sup>15</sup>

In regard to remote sensing, the sovereignty of the sensing state to engage in sensing activities confronts the sovereignty of the sensed state over its natural resources, including information pertaining to them. Although remote sensing takes place in outer space where there is no sovereignty, the data are collected for potential use on earth, where state sovereignty prevails over territory and airspace.

Legal positions on remote sensing vary according to the nationality of the sensing state and the territory being sensed. Remote sensing by a state of its own territory or of the high seas does not present a legal problem. When an aircraft "using sensing equipment flies outside the territorial waters of the sensed state, and not in the sovereign airspace of a foreign state, it has been generally accepted that such activity, and the subsequent dissemination of what has been acquired, is lawful."<sup>16</sup> Following this reasoning, some states argue that it is likewise lawful to engage in remote sensing from sovereign-free outer space. These states emphasize that sensing "is a space event rather than an earth event and that restrictions resulting from the principle of territorial sovereignty have no application."<sup>17</sup> States holding the opposing view believe remote sensing violates national territorial sovereignty. They stress the

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15. Robinson, *For a World Wide Utilization and Dissemination of Data Acquired Through Remote Sensing*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 113, 114-15 (N. Matte & H. DeSaussure eds. 1976); See Polter, *supra* note 14, at 113-18 for an excellent discussion of the "factual" as opposed to the "legal" status of sovereignty.

16. C. CHRISTOL, *supra* note 12, at 731.

17. *Id.* at 732.

earth impact of sensing and the right to exercise their sovereignty to protect earth-based resources and activities. Some states, while generally accepting the legality of remote sensing, desire the right to refuse sensing of their territories without their prior approval or prior notification by the sensing state. Finally, there are some states which accept the general legality of remote sensing but want to restrict dissemination of sensed data.<sup>18</sup> Those states which oppose remote sensing from outer space or have the desire to impose restrictions on sensing believe that specific knowledge of the amount, quality and location of natural resources "is a private and national matter required by security and economic considerations."<sup>19</sup>

It is within this general context that the specific legal issues discussed below and the relevant principles of the Mexican submission on remote sensing of the earth to the Legal Sub-Committee of COPUOS must be considered.

### *B. Specific Legal Issues*

The specific legal issues emerging from the conflict between remote sensing and national sovereignty over natural resources are contained in the following questions:

(1) Is remote sensing of the earth from outer space permissible under international law?

(2) Is it necessary for a sensed state to give prior approval before remote sensing can take place?

(3) May remotely sensed information be disseminated to third parties, and, if so, are there any conditions attaching thereto?

The first issue has been settled for some time, although some questions were raised initially. Legal opposition to remote sensing of natural resources centered around interpretation of 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 (1967 Outer Space Treaty).<sup>20</sup> Some states suggested that remote sensing of natural resources constituted a space activity fundamentally different from those envisaged by the 1967 Outer Space Treaty.

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18. *Id.*

19. *Id.* at 733.

20. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 18 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205 (1967) [hereinafter cited as 1967 Outer Space Treaty].

States supported the nonapplicability of the Treaty by arguing that remote sensing was “earth-looking” rather than “outward-looking.” Others pointed out, however, that there was no basis in the negotiating history of that Treaty to support the distinction, “and insofar as there is any evidence of the drafters’ intentions it leans quite in the other direction.”<sup>21</sup> The primary interest in space activity, in other words, was in the use of space technology to improve conditions on earth. The drafters recognized that mankind had a common interest in the potential use of outer space, “and the strong motivation for the Treaty was that all peoples should benefit.”<sup>22</sup> Exploration of outer space and celestial bodies was to be only one of the opportunities available to all states. Earth-looking, data-collecting satellites “were planned from the very beginning of the space age for a variety of purposes, each intended to apply analyzed data, wherever applicable, to earthly problems.”<sup>23</sup>

Years before the negotiation of the 1967 Outer Space Treaty, the United States was engaged in numerous, well-publicized studies of the earth’s weather from space by meteorological satellites, which, by definition, were oriented toward the earth. Numerous photographs of the earth and its resources were taken by the early United States manned space flights in the Mercury and Gemini programs. Further, “planning for continuation of these activities in the Apollo program was well-known at the time the treaty was agreed.”<sup>24</sup> These programs have never been questioned.

Reconnaissance satellites had also been in use prior to the 1967 Outer Space Treaty. Although they are strategic and serve political-military purposes, no serious legal objections have prevented states with such satellite capability from using it. States without such technology realize that any pleas to prohibit their use would go unheeded. Although it is understood that other states may be benefitted, states possessing the technology have generally been unwilling to forego satellite information. International law does apply strict rules to govern airspace above the land and territorial sea of states, but it is agreed that similar rules do not apply to outer space, notwithstanding the fact that specific delineation of airspace

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21. Statement by U.S. Representative Leonard Jaffe before the Working Group on Remote Sensing of the Legal Sub-Committee of COPUOS (Feb. 25, 1974), *reprinted in* 70 DEP’T ST. BULL. 376 (1974).

22. Galloway, *supra* note 13, at 96.

23. *Id.*

24. *See* Jaffe, *supra* note 21.

and outer space has not yet been made.<sup>25</sup>

Certain provisions of the 1967 Outer Space Treaty in particular support the legality of remote sensing of natural resources. Article I, paragraphs 2 and 3 state that outer space "shall be free for exploration and use by all states without discrimination of any kind, on the basis of equality and in accordance with international law, and . . . there shall be freedom of scientific investigation in outer space." Despite the fact that the earth, under the nomenclature of the Agreement, cannot be regarded as a celestial body in outer space, the freedom-of-outer-space rule strongly suggests the legality of remote sensing of natural resources.

Article III permits states to "carry on activities in the exploration and use of outer space, in accordance with international law, including the Charter of the United Nations." By implication, this provision applies to remote sensing since nothing in international law "could specifically be invoked as a prohibition of the type of activities performed by satellites surveying earth resources."<sup>26</sup> Finally, Article XI acknowledges the right of states to the "peaceful exploration and use of outer space." This acknowledgment impliedly suggests the existence of a right to engage in remote sensing.<sup>27</sup>

Because remote sensing and other peaceful outer space activities have been taking place for longer than a decade, it can be argued that a permissive rule of customary international law has been established. Attempts, since the early 1970's, by states to devise rules for remote sensing of natural resources and the environment

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25. Some states have also suggested that remote sensing of natural resources is distinguishable from remote sensing by meteorological and reconnaissance satellites because it allegedly affects the earth in a different and more significant way. This argument also did not withstand serious scrutiny. It was noted that sensing the earth's environment "for resources, mapping contours, air and water pollution, land use, or any other purpose does not of itself affect the Earth any more than a meteorological satellite changes or affects the cloud formations it senses." Statement by U.S. Representative Ronald F. Stowe before the Legal Subcommittee of COPUOS, (Feb. 19, 1975), reprinted in 72 DEP'T ST. BULL. 421 (1975).

26. Gorove, *International Legal Aspects of Earth Resources Satellites*, 15 PROC. COLLOQUIUM L. OUTER SPACE 30, 31 (1972).

27. For legal support of the notion that the 1967 Outer Space Treaty permits remote sensing of natural resources, see Brital, *Survey from Space of Earth Resources*, 13 PROC. COLLOQUIUM L. OUTER SPACE 197 (1970); Christol, *Space Sensing of Harms to the Marine Environment—Damages in International Law*, 16 PROC. COLLOQUIUM L. OUTER SPACE 106, 110 (1973); Dausés, *supra* note 13, at 127-28; DeSaussure, *Remote Sensing by Satellites: What Future for an International Regime?*, 71 AM. J. INT'L L. 710 (1977); Fiorio, *International Implications of Earth Resources Surveys by Satellites*, J. SPACE L. 1,1-2 (1973); Gorove, *Earth Resource Satellites and the Outer Space Treaty*, 15 PROC. COLLOQUIUM L. OUTER SPACE 80 (1972); Polter, *supra* note 14, at 107-08.

evidence their acceptance of these activities. The consolidated "Draft Principles" now being considered by the Legal Sub-Committee of COPUOS neither prohibits nor specifically acknowledges the right of states to engage in remote sensing of others. This is also true of the 1981 Mexican principles. Both drafts, however, "by seeking to impose specific limitations on such sensing" recognize "the wider right to engage in sensing."<sup>28</sup>

The legal considerations regarding prior approval for remote sensing of particular states are similar to those discussed above. There is no rule of international law, including the 1967 Outer Space Treaty, which proscribes remote sensing without prior consent. Articles I, III, and XI may also be cited in support of this position. As long as one state remotely senses the resources of another in accordance with these principles, the principles of the United Nations Charter, and generally accepted principles of international law which relate to space activities, no legal basis for a requirement of prior approval exists. A prior consent rule would also be objectionable for technical reasons. Presently, remote-sensing satellites scan a wide area which includes the territories of several states. Despite scientific sophistication, satellites are not able to discern invisible international borders or disentangle images according to boundary lines. The technology required to devise and operate a system "to separate billions of bits of data along political boundary lines would be financially prohibitive."<sup>29</sup> In addition, the studies which remote-sensing satellites undertake are either regional or global. These satellites can and do study ecological systems, vegetation and soil patterns, pollution, and rift systems in addition to natural resources. Conditions present in one state often affect conditions in others.<sup>30</sup> If prior approval were to become a legal requirement, denial by individual states could effectively prevent remote sensing, thereby restricting access to significant information beneficial to all states.

Of the draft principles submitted to the Legal Sub-Committee of COPUOS, only those submitted by Brazil<sup>31</sup> and those submitted jointly by Argentina and Brazil<sup>32</sup> specifically require prior consent.

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28. C. CHRISTOL, *supra* note 12, at 753.

29. Leigh, *supra* note 13, at 149.

30. *Id.*

31. COPUOS, *supra* note 4, Proposal 3, Annex 4, at 3-5.

32. International Cooperation in the Peaceful Uses of Outer Space: Report of the First Committee on the Peaceful Uses of Outer Space, Twenty-Ninth Session (Agenda Item 32), art. 5, U.N. Doc. A/C.1/1047 (1974).



Principle 12 of the 1981 Mexican submission instead requires that sensing states “shall give *advance notification* to the state whose territories, territorial sea or maritime areas under their jurisdiction will be sensed.”<sup>33</sup> Further, Principle 13 requires a sensing state, “upon request of the sensed state,” to “consult” with the sensed state. Such a requirement is necessary “in order to comply with Principle 14 and thus to promote international cooperation . . . among states and to enhance the mutual benefits to be derived from this activity.” Principle 15 also requires that sensed states be provided with “preliminary information . . . relating to the natural resources of the territory.” Obviously, Mexico has backed away from the prior approval requirement, which was contained in its previous cosponsored joint proposal.

The principles cited above represent attempts to circumscribe sensing states’ freedom of action to as great an extent as is politically feasible. Mexico’s attitude represents an acceptance of the political reality that sensing states are unlikely to comply with any requirement that would seriously impede remote sensing activities. This attitude is also apparent in Mexico’s acknowledgment of the technical difficulties that prior consent would create.<sup>34</sup>

The third legal issue, dissemination of natural resource information obtained through remote sensing, is the most difficult to resolve. The question of the control a sensed state has over natural resource information from within its territory is politically sensitive. States which support open dissemination of remotely sensed data employ arguments similar to those proffered in opposition of the prior approval requirement. They contend that (1) the technology of remote sensing is not able to detect political boundaries, (2) the success of remote sensing requires large-area data collection,

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33. COPOUS, *supra* note 10, Principle 12 (emphasis added). The draft principles suggested by France contain a provision for advance notification similar to the Mexican Principle 12. See COPOUS, *supra* note 4, Principle 3, at 5-6.

34. A strong case can be made for the deletion of Principle 12 from the Mexican submission since Principle 7, paragraph 2 accomplishes a similar purpose. The latter requires that sensing states “shall, prior to the execution of these programmes, give prior notification thereof to the Secretary-General of the United Nations, who shall publish such notification.” This statement should be sufficient to quiet the concerns of Mexico and other states with similar views, since it accords to them the respect of their national sovereignty they seek and affords them an opportunity to participate and cooperate with the sensing state. In 1981 the Working Group of the Legal Sub-Committee of COPUOS deleted the prior notification sentence from Principle 8 of the consolidated “Draft Principles” for these reasons. *Report of the Chairman of the Working Group on Remote Sensing*, 9 J. SPACE L. 121, 123-24 (1981), taken from COPUOS, Report of the Legal Sub-Committee on the Work of its Twentieth Session, Annex 1, at 1-6, U.N. Doc. A/AC 105/288 (1981).

and (3) certain provisions of the 1967 Outer Space Treaty may be interpreted as to include remote sensing activities.

Article I, paragraph 3 of the 1967 Outer Space Treaty refers to "freedom of scientific investigation" and requires that states "shall facilitate and encourage international cooperation in such investigation." This provision clearly suggests that cooperatively acquired data be broadly disseminated because it would be, as paragraph 1 of the same article states, "for the benefit and in the interests of all countries." Article III may be cited to support the requirement that states pursue their outer space activities "in the interest of maintaining international peace and security and promoting international cooperation and understanding." The open dissemination of remotely sensed data would seem to promote such cooperation and understanding among states.

It is Article XI, however, which is especially pertinent to the argument supporting open dissemination. It reads:

In order to promote international cooperation in the peaceful exploration and the use of outer space, states . . . conducting activities in outer space, . . . agree to inform the *Secretary-General of the United Nations*, as well as the *Public* and the *international scientific community*, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said *information*, the *Secretary-General of the United Nations* should be prepared to *disseminate* it immediately and effectively.<sup>35</sup>

The wording of this provision seems clear. It does not legally impose a duty upon states to disclose detailed information, "but leaves it to their discretion to determine, in accordance with the guiding principle of world-wide cooperation and having due regard to the betterment of mankind, to what extent data communications is (technically) feasible and (politically) practicable."<sup>36</sup>

Reference may also be made to the International Covenant on Civil and Political Rights<sup>37</sup> and the International Covenant on Eco-

35. 1967 Outer Space Treaty, *supra* note 20, art. XI (emphasis added).

36. Daus, *supra* note 13, at 131. Interestingly, Gorove suggests that it could be argued that the admitted purpose of Article XI is "to promote international cooperation in the peaceful exploration and use of outer space," and that "if the dissemination would not promote such purpose because a number of states were objecting to it, then the obligation imposed by Article XI would not be applicable. This, of course, would in no way imply any restriction on the party to disseminate the information." Gorove, *supra* note 26, at 31.

37. G.A. Res. 2200, 21 U.N. GAOR, Supp. (No. 16) at 52, U.N. Doc. A/6316 (1966) [hereinafter cited as Covenant on Political Rights].

nomic, Social, and Cultural Rights,<sup>38</sup> both of which came into force in 1976 and currently are legally binding on over sixty states.<sup>39</sup> Article 19, paragraph 2 of the former reads: “Everyone shall have the right to freedom of expression; this *right shall include freedom to seek, receive and impart information* and ideas of all kinds, *regardless of frontiers*, either orally, in writing or in print, . . . through any . . . media of his choice.”<sup>40</sup>

Article 11, paragraph 2(a) of the International Covenant on Economic, Social, and Cultural Rights, in pertinent part, states:

States . . . recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international cooperation, the measures . . . which are needed: To improve methods of production, conservation and distribution of food *by making full use of technical and scientific knowledge, by disseminating knowledge* of the principles of nutrition and by developing or reforming agrarian systems in such a way as *to achieve the most efficient development and utilization of natural resources*.<sup>41</sup>

Article 15, paragraph 1(b) of the same Covenant requires states to “recognize the right of everyone: To enjoy the benefits of scientific progress and its applications.”<sup>42</sup>

The above provisions suggest that individuals have the right to receive and disseminate information gained through remote sensing. This right “corresponds with the regulations of Article XI of the Outer Space Treaty, according to which states are obliged to make the information available to the individual.”<sup>43</sup>

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38. G.A. Res. 2200, 21 U.N. GAOR Supp. (No. 16) at 49, U.N. Doc. A/6316 (1966) [hereinafter cited as Covenant on Cultural Rights].

39. For the full texts of the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social, and Cultural Rights, see N. LEECH, C. OLIVER & J. SWEENEY, DOCUMENTARY SUPPLEMENT TO CASES AND MATERIALS IN THE INTERNATIONAL LEGAL SYSTEM 46-62, 67-76 (1973). The Covenants incorporate provisions of Universal Declaration of Human Rights, G.A. Res. 217, U.N. Doc. A/810, at 71 (1948). The full text of the Resolution is in N. LEECH, C. OLIVER & J. SWEENEY, *supra* at 40-45.

40. Covenant on Political Rights, *supra* note 37, art. 19, para. 2 (emphasis added).

41. Covenant on Cultural Rights, *supra* note 38, art. 11, para. 2(a).

42. Covenant on Cultural Rights, *supra* note 38, art. 15, para. 1(b).

43. Polter, *supra* note 13, at 110. Article 19, paragraph 2 of the International Covenant on Civil and Political Rights and Article 11, paragraph 2(a) and Article 15, paragraph 1(b) of the International Covenant on Economic, Social, and Cultural Rights apply to individuals rather than to states. As such, they underscore the practical difficulty inherent in any attempt to restrict open dissemination of remotely sensed data. The United States is presently the leading sensing state, and under its municipal law, the government “would have no basis on which to deny remote sensing data to U.S. citizens.” Under any arrangement regarding dissemination, therefore, some information released to citizens of the United States “would find

States opposing open dissemination stress that national sovereignty over natural resources extends to information about those resources. Specific concern about sovereign control of natural resources has resulted in a number of General Assembly resolutions. However, many of these resolutions were put into effect prior to the advent of the space age.<sup>44</sup> In essence, each of the resolutions has assured states the right of permanent sovereignty over their natural resources and wealth. However, General Assembly resolutions, because of their recommendatory nature, do not normally create international law; they express the opinions of a majority of states on given issues. This was equally true of the resolutions on national sovereignty over natural resources. Their principal legal impact was to affirm an inherent characteristic of sovereign states.

The legal interpretation of this inherent characteristic and its application to the principle of freedom of information about natural resources has produced differences of opinion on this issue. It has been argued, for example, that the principle of freedom of information across national frontiers is essentially a political concept. Even though the free flow of information may be legally applicable, as in the cases of the International Covenants on Civil and Political Rights and Economic, Social, and Cultural Rights, it likely could

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its way abroad in an irregular and uncontrollable manner." The result would be that such data "would become available to different countries on an unequal basis," with some perhaps obtaining none at all. Jaffe, *supra* note 21, at 377.

Article 19, paragraph 2 might also be considered, however, in connection with Article 47 of the same Covenant, which states that nothing in the Covenant "shall be interpreted as impairing the inherent right of all peoples to enjoy and utilize fully and freely their natural resources and wealth." Depending on interpretation and emphasis, the latter article might have a restrictive effect on the freedom of information provisions of the former.

44. G.A. Res. 3281, 29 U.N. GAOR Supp. (No. 31) at 50, U.N. Doc. A/9631 (1974); G.A. Res. 3234, 29 U.N. GAOR Supp. (No. 31) at 14, U.N. Doc. A/9631 (1974); G.A. Res. 3201-02, 29 U.N. GAOR Supp. (No. 1) at 3, 5, U.N. Doc. A/9556 (1974); G.A. Res. 3171, 28 U.N. GAOR Supp. (No. 30) at 52, U.N. Doc. A/9030 (1973); G.A. Res. 3016, 27 U.N. GAOR Supp. (No. 30) at 48, U.N. Doc. A/8730 (1972); G.A. Res. 2778, 26 U.N. GAOR Supp. (No. 29) at 28, U.N. Doc. A/8429 (1971); G.A. Res. 2776, 26 U.N. GAOR Supp. (No. 29) at 23, U.N. Doc. A/8429 (1971); G.A. Res. 2733, 25 U.N. GAOR Supp. (No. 28) at 19, U.N. Doc. A/8028 (1970); G.A. Res. 2692, 25 U.N. GAOR Supp. (No. 28) at 63, U.N. Doc. A/8028 (1970); G.A. Res. 2601, 24 U.N. GAOR Supp. (No. 30) at 12-13, U.N. Doc. A/7630 (1969); G.A. Res. 2600, 24 U.N. GAOR Supp. (No. 30) at 11, U.N. Doc. A/7630 (1969); G.A. Res. 2386, 23 U.N. GAOR Supp. (No. 18) at 24, U.N. Doc. A/7218 (1968); G.A. Res. 2158, 21 U.N. GAOR Supp. (No. 16) at 29, U.N. Doc. A/6316 (1966); G.A. Res. 1803, 17 U.N. GAOR Supp. (No. 17) at 15, U.N. Doc. A/5217 (1962); G.A. Res. 1720, 16 U.N. GAOR Supp. (No. 17) at 25, U.N. Doc. A/5100 (1961); G.A. Res. 1515, 15 U.N. GAOR Supp. (No. 16) at 9, U.N. Doc. A/4684 (1960); G.A. Res. 1314, 13 U.N. GAOR Supp. (No. 18) at 27, U.N. Doc. A/4090 (1958); G.A. Res. 626, 7 U.N. GAOR Supp. (No. 20) at 18, U.N. Doc. A/2361 (1952); G.A. Res. 523, 6 U.N. GAOR Supp. (No. 20) at 20, U.N. Doc. A/2119 (1952).

not withstand a confrontation with the principle of national sovereignty. The primary reason that open dissemination would not withstand such a challenge is grounded in the fact that national sovereignty is the keystone of international legal relations and, as such, would be accorded supremacy.<sup>45</sup> In addition, since the actual transfer of remotely sensed information on natural resources would involve the economic and political security of the states concerned, states exercise of sovereignty clearly embodies the right to control dissemination of the information so obtained.<sup>46</sup> Principle 15 of the 1981 Mexican submission conforms to this view. It requires the prior approval of a sensed state before "information or results and conclusions" about its natural resources can be disseminated to third parties and thus follows the general line of the consolidated "Draft Principles" and several of the previous state proposals.<sup>47</sup>

The position of opposing states on the open dissemination issue appear to be unyielding. The concern of Mexico and others is that information acquired by remote-sensing satellites might be used to the economic and political disadvantage of the sensed state. This fear is grounded in both the international political relations of states and in specific historical experiences. The better legal view, however, is in support of open dissemination. It is unlikely that the United Nations General Assembly resolutions previously mentioned were ever meant to include remotely sensed information regarding natural resources. Also, knowledge about natural resources alone cannot be equated with any reduction in the legal right any sovereign state has over such resources. Nor does knowledge of natural resources by other states create access to them; consent of the sovereign state would still be required. Any attempt to limit dissemination of information, therefore, should be considered, at the least, as an attempt to reinterpret the traditional legal under-

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45. Statement of Mr. Vallarta, representative of Mexico before the Legal Sub-Committee of COPUOS, in Summary Record of the Two Hundred and Eighteenth Meeting—The Various Implications of Space Communications: Report of the Working Group of Direct Broadcast Satellites, (Agenda Item 4) at 66, U.N. Doc. A/AC.105/C.2/SR.218 (1974).

46. Statement of Mr. de Seixas Correa, representative of Brazil, before the Legal Sub-Committee of COPUOS, in Summary Record of the Two Hundred and Twentieth Meeting—Matters Relating to the Activities Carried Out Through Remote Sensing Satellite Surveys of Earth Resources, (Agenda Item 5) at 87, U.N. Doc. A/AC.105/C.2/SR.220, (1974).

47. See COPUOS, "Draft Principles": Principle 15, *supra* note 10 at 7-12; Soviet Union: Proposal 5, *supra* note 3, at 11-12; France: Proposal 5, *Id.*, at 5-6; France and the Soviet Union jointly: Proposal 5(b), *Id.*, at 9-10; Argentina and Brazil jointly, cosponsored by Chile, Mexico and Venezuela: Article IX, U.N. Doc. A/C.1/1047 (1974).

standing of sovereignty and, at the most, as a movement to create a new rule of international law.<sup>48</sup>

## II. POLICY CONSIDERATIONS

International law is a reflection of international politics. When states attempt to devise new rules of international law, their negotiating positions are based upon perceived national interests. Each state has some interests in common with others; yet, for a number of reasons, including geographical location, amount of natural resources, and historical experiences, each state and its political motivations are unique. The 1981 Mexican proposals on remote sensing must be considered in this light. Mexico was guided largely by its condition as an advanced developing country and by its intense feelings of nationalism. Mexico has aligned itself with other developing states on international economic and political issues and has attempted in recent years to provide Third World leadership. What follows is a discussion of the policy considerations which underlie the Mexican submission on remote sensing.

### *A. Mexico and the Third World*

The Third World comprises the poorer, less developed countries of the world. Although there are over 140 countries in this category, aggregately accounting for seventy-five percent of the world's population, they represent roughly only twenty percent of goods and services produced, as measured against the world's gross national product.<sup>49</sup> However, within the Third World, there are wide discrepancies among the individual nations in economic development and industrialization.

Mexico belongs to a small but important group of developing states referred to as the New Industrial Countries (NICs). These NICs have achieved an increase in their gross national products as a result of the rapid growth in production and exportation of manufactured goods. As a group, they have expanded their economies more rapidly than their populations have increased. This is essen-

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48. The United States has already made numerous bilateral agreements to build ground stations for the acquisition and processing of data from remote sensing satellites. These stations are receiving remotely sensed data on the natural resources of states other than those in which they are located. To be effective, therefore, a new law which would limit dissemination of information might require abrogation of existing legal agreements and assumption of control or the dismantling of present ground stations outside the sensing state.

49. C. KEGLEY & E. WITTKOPF, *AMERICAN FOREIGN POLICY: TREND AND TRANSFORMATION* 73 (1981).

tial for developing countries which are seeking to advance economically and to improve their standard of living.<sup>50</sup> Interestingly, the economic advances by NICs have been accomplished largely through increased interaction with and ties to richer industrialized states.<sup>51</sup>

The historic relationships between the rich and the poor, however, have come under increasing attack from the Third World. To developing countries, the present international political economy seems structured to perpetuate their inferior status. There is widespread feeling that present international economic institutions, such as the International Monetary Fund and the General Agreement on Tariffs and Trade, are very biased against Third World states in their global distribution of income and influence. This perception is buttressed by a legacy of colonial exploitation and continuing levels of poverty unheard of in industrialized states. Because of these feelings, developing countries have promoted the creation of new institutions and supported a restructuring of the old.<sup>52</sup>

The striving for equality has its political dimension as well. Third World countries are disturbed by the present system in which a few wealthy, industrial and more powerful states make most of the important decisions that affect all others. They believe each state should be able to manage its own political and economic affairs "without interference from the outside." They argue that each state should be able to decide for itself "how its resources should be utilized" and "what policies industrial and agricultural enterprises

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50. *Id.* at 77-78.

51. For an excellent discussion of the NIC's ties to the developed world, see Krasner, *Transforming International Regimes: What the Third World Wants and Why*, 25 INT'L STUD. Q. 2, 136-45 (1981).

52. C. KEGLEY & E. WITTKOPF, *AMERICAN FOREIGN POLICY: PATTERN AND PROCESS* 203-04 (1982). Dependency theory is a term used by scholars from the Third World, especially in Latin America, to characterize the economic and political relationships between developing and developed states. For a general discussion of dependency theory see J. RAY, *GLOBAL POLITICS* 224-29 (2d ed. 1983). For more detail see Dos Santos, *The Structure of Dependence*, 60 AM. ECON. REV. 231, 231-36 (1970); Bath & James, *Dependency Analysis of Latin America: Some Criticisms, Some Suggestions*, 11 LATIN AM. RESEARCH REV. 1, 3-54 (1976); Caporaso, *Dependence, Dependency, and Power in the Global System*, 32 INT'L ORG. 13, 13-43 (1978); Caporaso, *Dependency Theory: Continuities and Discontinuities in Development Studies*, 34 INT'L ORG. 605, 605-28 (1980); See also Smith, *The Logic of Dependence Theory Revisited*, 35 INT'L ORG. 755, 755-61 (1981); Smith, *The Underdevelopment of Development Literature: The Case of Dependency Theory*, 31 WORLD POLITICS 247-88 (1979). See generally F. CARDOZO & E. FALETTO, *DEPENDENCY AND DEVELOPMENT IN LATIN AMERICA* (1978); Duvall, *A Formal Model of 'Dependencia' Theory: Structure and Measurement*, in *FROM NATIONAL DEVELOPMENT TO GLOBAL COMMUNITY* (R. Merritt & M. Russett eds. 1981).

operating within its borders should follow.”<sup>53</sup>

The views of Third World states went largely unexpressed in international forums until 1962, when these states were able to use their majority position in the UN General Assembly to call for a United Nations Conference on Trade and Development (UNCTAD).<sup>54</sup> The Conference convened in the spring of 1964 at Geneva. Items of economic concern and related international political issues were on the agenda. At this meeting, the Group of 77 was formed as a coalition of developing countries committed to pressing industrialized states for economic concessions. Now numbering over 120 members, the Group of 77 has become the most vocal advocate of Third World interests in various international gatherings.<sup>55</sup>

Before 1971, Mexico had assumed a low profile on economic issues that separated the rich and the poor. Mexico's transition to a more politicized and aggressive stance can be attributed to a fusion of economic and political motives that grew out of developments peculiar to Mexico in 1971. Continuing frustration with domestic reform efforts led to greater emphasis on foreign policy initiatives. The August 1971 surcharge tax by the United States on imported Mexican goods, however, was a significant external factor that contributed directly to this transition. After failing to persuade its major trading ally to waive the tax, President Luis Echeverria went to the UN General Assembly, and for the first time, Mexico presented its economic grievances in an international forum. President

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53. Wriggins, *Third World Strategies for Change: The Political Context of North-South Interdependence*, in REDUCING GLOBAL INEQUALITIES 39 (G. Karlsson & W. Wriggins eds. 1978).

54. G.A. Res. 1785, 17 U.N. GAOR Supp. (No. 17) at 14, U.N. Doc. A/5217 (1962). The resolution was adopted by a vote of 91 to 0, with one abstention. Despite the near unanimous support, however, there was a general lack of enthusiasm among the developed states in part because of concern over the agenda. After being assured that international economic institutions and East-West trade would not be discussed, the industrialized states agreed. Later, through step-by-step negotiating maneuvers, these items were returned to the agenda, but by that time the developed countries were committed. B. GOSOVIC, UNCTAD: CONFLICT AND COMPROMISE 19-20 (1972).

55. Although UNCTAD has been the most significant meeting place for economic and political dialogue between developed and developing states, the latter have also presented their case in other international forums, such as the International Monetary Fund, the World Bank, the Third United Nations Law of the Sea Conference and the ad hoc Conference on International Economic Cooperation, which met in Paris for 18 months between late 1975 and mid-1977. The most comprehensive treatment of the background, creation, and work of UNCTAD is B. GOSOVIC, *supra* note 48, at 271-303. This chapter deals specifically with the Group of 77. The most recent, comprehensive treatment of the Group of 77 is *The Group of 77: Evolution, Structure, Organization* (Oceana 1981).



Echeverria appealed for Third World solidarity and public censure of the United States for economic protectionism.<sup>56</sup> After this challenge to the United States, Mexico became actively involved in multilateral organizations representing the interests of developing states.

Mexico's most significant foreign policy initiative in this regard was its promotion of the Charter of Economic Rights and Duties of States, which purported to organize and codify a "New International Economic Order." The Charter was presented initially to the third UNCTAD conference in Chile in 1972 and in 1974 to the UN General Assembly. The Charter called for a radically different international economic system. Billions of dollars were to be transferred from developed states to developing countries via the United Nations. Further, significant changes in trade relations between the two groups of states were to be made through special agreements and modifications of traditional trade mechanisms.<sup>57</sup>

Of special interest to this discussion was the Charter's assertion of permanent sovereignty over natural resources, which implied the right of unrestricted nationalization of foreign enterprises according to national laws. Although most of the developed states abstained or voted against it, the Charter was approved by the UN General Assembly in 1974.<sup>58</sup> Differences regarding the national sovereignty issue cleaved the developing countries and the industrialized states. The Charter, nevertheless, became Mexico's major appeal to developing countries and a priority objective of its foreign policy. It added substance to Mexico's new diplomatic activism at multilateral and bilateral levels and "proved to be its main vehicle in establishing a respectable presence within the Third World camp."<sup>59</sup>

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56. Y. SHAPIRO, *MEXICAN FOREIGN POLICY UNDER ECHEVERRIA* 46 (1978).

57. A comprehensive, up-to-date work on the New International Economic Order is K. SAUVANT, *CHANGING PRACTICES ON THE INTERNATIONAL AGENDA: THE NEW INTERNATIONAL ECONOMIC ORDER* (1981); *see also* *THE NEW INTERNATIONAL ECONOMIC ORDER: CONFRONTATION OR COOPERATION BETWEEN NORTH AND SOUTH?* (K. Sauvant & H. Hosenpflug eds. 1977).

58. G.A. Res. 3281, 29 U.N. GAOR Supp. (No. 31) at 50, U.N. Doc. A/9631 (1974).

59. Y. SHAPIRO, *supra* note 50, at 59. Since 1974, Mexico has assumed some significant, specific global roles. For example, in 1975, it chaired the Group of 77, and in 1982, it submitted on behalf of the Group of 77 a proposal dealing with remote sensing and international direct television broadcasting to the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space in Vienna. U.N. Doc. A/Conf. 101/L.3 (1982). Additionally, in October of 1981, Mexico cohosted (with Canada) the International Meeting on Cooperation and Development. The meeting was held in Cancun, Mexico. For

### *B. Remote Sensing: Specific Political Concerns*

Although Mexico's colonial experience antedates similar experiences in most other developing countries, its present foreign policy attitude and political culture were shaped, to a considerable extent, by its struggles with Spain and the United States. Furthermore, the common history of conflict with and exploitation by more powerful states best explains Mexico's alignment with the Third World on international economic and political matters. Mexico's standing as an advanced developing country has also encouraged its leadership role. It is in this context that Mexico's attitude on the legal issues relating to remote sensing and national sovereignty over natural resources is best understood.

There is common concern among Third World states that the activity of remote sensing may be used by the sensing states to exploit the sensed states. In general these states fear that exploitation, characteristic of the colonial period of global history, will be reinstated—the net result being the exacerbation of the present unequal economic and political relationships between developed and developing states. In particular, Mexico and other developing states oppose an open dissemination regime for remotely sensed data.

Specifically, Third World states believe that remote sensing of natural resources, if uncontrolled, could adversely affect their economic progress and welfare. This is especially true since most Third World states must depend upon economical programs for development of their natural resources. Although fact gathering is a politically neutral activity, "earth resources satellites are often perceived as an economic threat, because of the satellite's potential for providing economically useful data to other states."<sup>60</sup> The Third World perceives the release of this data as an invasion of privacy. Interference with the normal and desired development of natural resources could adversely affect a state because of the impact that such information could have on international market conditions. For example, if a particular state's economy is heavily dependent upon the sale of a certain agricultural product on the world market, "it is possible that world-wide knowledge of the existence of an oversupply of that commodity would produce an undesirable effect

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a detailed assessment of the Cancun meeting, see Mathews, *World North-South Issues at the Cancun Conference*, in *COMPARATIVE POLITICS* 83/84, at 232-41 (Dushkin ed. 1982).

60. DeSaussure, *supra* note 13, at 714.

on price.”<sup>61</sup> Conversely, a desirable effect on prices would result if the presence of an abnormally small supply were known.

Another specific concern is that information regarding the discovery of new minerals, including oil, might be used by a powerful multinational enterprise to develop and control the new resources to the detriment of the sensed state. Third World countries believe that the large companies, which control natural resources and consumer goods, might use remotely sensed information to determine their buying and selling policies and to extort development rights by manipulating their control over mineral resources and energy. Knowledge that consumer states lack these resources “can allow companies to stock up with huge quantities with a view to eventually raising prices.”<sup>62</sup>

Mexico and other Third World states, which lack the technical capacity and scientific infrastructure to develop an independent remote sensing program, feel isolated and potentially prejudiced by the sensing programs which advanced states possess. They suspiciously regard such scientific and technical activities “as a means to minimize” their efforts to control and manage their own destinies “without excessive foreign influence.”<sup>63</sup> Not having remote sensing capacities, they “fear they could be put at a disadvantage and that others might exploit the technology to their detriment in ways which might not be clearly foreseen.”<sup>64</sup>

### C. Mexican-United States Relations

A review of Mexico’s historic and present relations with the United States adds a specific dimension to the characterization of Mexico as an advanced developing country which possesses international economic and political interests similar to those of other Third World states. Mexico’s geographic contiguity to the United States has been the dominant factor shaping Mexico’s interests and positions on foreign policy. This includes its legal position on remote sensing of natural resources. The economic exploitation of Mexico occurred primarily at the hands of the United States, the

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61. Pikus, *Possibility of Technical Control over Resources by Remote Sensors*, 16 PROC. COLLOQUIUM L. OUTER SPACE 147 (1973).

62. Estrada, *Detection of Earth Resources by Remote Sensors*, 15 PROC. COLLOQUIUM L. OUTER SPACE 14 (1972).

63. Christol, *supra* note 13, at 135.

64. Wang, *Canada and the International Principles Governing Remote Sensing*, in LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE 155 (N. Matte & H. DeSaussure eds. 1976).

leading sensing state. The intense feelings of nationalism and concern over national sovereignty, which largely motivate Mexico's foreign policy, are clearly related to its sense of vulnerability vis-à-vis the United States.

Mexican feelings of apprehension toward its neighbor developed as long ago as the early nineteenth century. In 1823 the United States issued the Monroe Doctrine, which seemed to offer an alliance to Mexico should Spain seek to recapture her colonies. Since it was promulgated unilaterally, however, the United States alone determined the situations in which the Monroe Doctrine would be applied. In time, the Monroe Doctrine was associated with expansion and imperialism and became the implement for the establishment of United States hegemony in Latin America. Mexicans have not forgotten their military encounters with the United States. In the war of 1846-48, the United States occupied the Mexican capital city and seized and annexed roughly one-half of its territory. In 1914, the United States moved warships into Mexican waters and occupied Vera Cruz. Americans also launched an invasion of Mexico in 1916 in order to punish Pancho Villa for his massacre of American mining engineers at Santa Ysabel, Mexico, and for his raid on Columbus, New Mexico.<sup>65</sup>

Mexico's economic dependence on the United States dates from the 1880's and has increased over time.<sup>66</sup> One of the objectives of Mexico's 1910 revolution was to rescue key sectors of its economy from American and other foreign control. The revolution, therefore, was strongly nationalistic.

The Mexican Constitution of 1917 translated these nationalistic feelings into a legal framework. Of special importance is Article 27, which asserts national ownership of all subsoil wealth. Considerable confrontation with the United States developed over this provision. After a bitter dispute erupted with American-owned oil companies, Mexico implemented Article 27 in 1938 by nationalizing the industry. By that time, however, President Franklin Roosevelt's Good Neighbor Policy had been inaugurated and was strengthened by cooperation during World War II. Mexican-United States cooperation continued after the war, although Mexico pursued an independent foreign policy sometimes at odds with

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65. Ross, *Mexican-U.S. Relations: An Historical Perspective*, in U.S. POLICIES TOWARD MEXICO: PERCEPTIONS AND PERSPECTIVES 6-8 (R. Erb & S. Ross eds. 1979).

66. *Id.* at 7.

that of the United States.<sup>67</sup> At present, Article 27 remains one of the most important symbols of nationalism, sovereignty and independence in Mexico's history.

During the presidency of Luis Echeverria (1970-76) differences between the two countries again became especially sharp. As previously noted, this period marked the beginning of Mexico's active pursuit of a leadership role in the Third World. Echeverria's successor, Lopez Portillo (1976-82), was somewhat more restrained in his dealings with the United States. During his presidency, Mexico presented a highly visible attack on the existing world order, but projected a positive image toward foreign investment and discreetly negotiated investment ties with the United States.<sup>68</sup>

At the economic level, however, several strains in Mexican-United States relations developed. Mexico opposed the American suggestion of a North American economic community and decided in November 1980 to diversify its supply of oil products.<sup>69</sup> Of special importance was Mexico's 1980 decision not to become a signatory of the General Agreement on Tariffs and Trade, although the United States had been strongly urging membership. This act probably had the most significant effect on the two states' economic relations in recent years. The decision was largely a political one, strongly nationalistic, and served to underscore the historical remembrances that have colored Mexican-United States relations.<sup>70</sup>

The trade and investment dimension of Mexican-United States relations further illustrates the tremendous influence of the United States. One of the most important manifestations of Mexico's economic dependence is its financial dependence on foreign loans<sup>71</sup> and direct foreign investment.<sup>72</sup> In both cases, roughly seventy percent is of United States origin. Mexico has based its successful de-

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67. *Canada, Mexico, and the U.S.: New Tasks for Good Neighbors*, in GREAT DECISIONS 78, at 74 (Foreign Policy A., Inc. 1978).

68. Krasner, *supra* note 45, at 147.

69. Mexico's 1980 oil-export decision was not to sell more than fifty percent to any one country; the United States had been purchasing eighty percent. Purcell, *Mexico-United States Relations: Big Initiatives Can Cause Big Problems*, 60 FOREIGN AFF. 384 (1982).

70. Wichtrich, *Mexican-American Commercial Relations*, in MEXICO AND THE UNITED STATES 88-89 (R. McBride ed. 1981).

71. A brief historic review of American loans to Mexico can be found in Del Rosario Green, *Mexico's Economic Dependency*, in MEXICO-UNITED STATES RELATIONS 111-14 (S. Purcell ed. 1981).

72. For a discussion of United States capital investment in Mexico, see Weinert, *Foreign Capital in Mexico*, in MEXICO-UNITED STATES RELATIONS 115-24 (S. Purcell ed. 1981); see also Wichtrich, *supra* note 64, at 92-103.

velopment program largely on this capital. Foreign loans are more limited in scope because lenders bring their capital and nothing else. Investors, by contrast, supply management and technology in addition to money, and thereby present a more visible challenge to Mexico's sovereignty. Mexico's trade with the United States indicates a similar dominance. In 1980, Mexican exports to the United States were sixty-eight percent of its total exports, and imports from the United States were sixty-two percent of its total imports. Furthermore, in the last decade the dollar volume has so increased that today Mexico is the United States' third largest trading partner.<sup>73</sup>

With the discovery of rich new oil fields<sup>74</sup> and vast related quantities of natural gas, Mexico may find its future trade and investment relationship with the United States less compelling than before. To expand production substantially, however, vast sums of foreign investment and loans—again most likely originating in the United States—are required. The United States is obviously very interested in a special trade relationship with Mexico where oil is concerned. Mexico's economic situation, therefore, is somewhat paradoxical. Although there is general mistrust of the United States and an intense desire to exert nationalistic independence in regard to its natural resources, Mexico must, nevertheless, rely upon foreign capital and management resources, especially from the United States, to finance its program of industrialization and development.

### III. PROPOSAL CONSIDERATIONS FOR AN EGALITARIAN REMOTE SENSING PROGRAM

If benefits are to result from remote sensing activities, states must develop sufficient faith in others so that cooperation is possi-

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73. Additional detailed statistics on trade between Mexico and the United States are found in Wichtrich, *supra* note 64, at 80-87. See also Hufbauer, *Bilateral Trade Relations*, in MEXICO-UNITED STATES RELATIONS, *supra* note 65, at 136-45; Randall, *Mexican Development and Its Effects upon United States Trade*, in MEXICO AND THE UNITED STATES, *supra* note 64, at 49-76 for excellent accounts of Mexican-United States trade relations.

74. Mexico's total reserves of oil are estimated to be in excess of 60 billion barrels, which is roughly six times the reserves of Alaska's North Slope and about forty percent of Saudi Arabia's reserves. See *Canada, Mexico, and the U.S.: New Tasks for Good Neighbors*, *supra* note 61, at 74.

For an excellent discussion of the oil industry in Mexico, see Grayson, *The Mexican Oil Boom*, in MEXICO-UNITED STATES RELATIONS, *supra* note 65, at 146-47.

For a very thorough account of the importance of oil in Mexican-United States relations, see generally U.S. MEXICAN ENERGY RELATIONSHIPS: REALITIES AND PROSPECTS (J. Ladman, D. Baldwin & E. Bergman eds. 1981).

ble. A state, therefore, should not oppose dissemination of remotely sensed information of its natural resources if that information can be used, along with similar information on other states, to benefit not only the sensed state but all of mankind. This position parallels Third World thinking on the "Common Heritage of Mankind" principle as it applies to both outer space and the ocean floor.<sup>75</sup> If it is logical, as the Common Heritage principle asserts, that developing countries should receive an equitable share of the resources and wealth of outer space and the ocean floor, it is also logical philosophically to assume that natural resources elsewhere on earth should be used for the same purpose. To argue otherwise is to suggest that special consideration should be given to developing countries, perhaps because of past exploitation and because, based on population, developed countries today consume a disproportionate quantity of the natural resources of the world. This latter argument is consistently made by Mexico and other Third World states seeking an international economic order to replace the allegedly unfair existing system.

The industrialized states, however, have rejected the view that economic woes of developing states are the result of the current international economic system. Instead, they pinpoint present economic and development problems in the domestic systems of Third World countries themselves. However, it can also be argued that the contacts between developing countries and developed states, both during and after colonization, have *benefited* rather than exploited the developing countries, leaving the poor better off economically and technologically than if no relationship had ever

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75. For a discussion of the meaning and application of the Common Heritage of Mankind principle as it applies to the ocean, see Adede, *The System for Exploitation of the 'Common Heritage of Mankind' at the Caracas Conference*, 69 AM. J. INT'L L. 31, 31-49 (1975); see also Gorove, *The Concept of 'Common Heritage of Mankind': A Political, Moral, or Legal Innovation?*, 9 SAN DIEGO L. REV. 390, 391-403 (1972).

Comments on the Common Heritage of Mankind as it applies to outer space are numerous. See Brooks, *Prospects for Legal Progress on Celestial Bodies*, 14 PROC. COLLOQUIUM L. OUTER SPACE 181, 183 (1971); Christol, *The Legal Common Heritage of Mankind: Capturing an Illusive Concept and Applying it to World Needs*, 18 PROC. COLLOQUIUM L. OUTER SPACE 42,46 (1975); Cocca, *The Principle of the 'Common Heritage of Mankind' as Applied to Natural Resources from Outer Space and Celestial Bodies*, 16 PROC. COLLOQUIUM L. OUTER SPACE 172-76 (1973); Dekanozov, *Judicial Nature of Outer Space, Including the Moon and Other Celestial Bodies*, 17 PROC. COLLOQUIUM L. OUTER SPACE 200-07 (1974); Gorove, *The Draft Treaty Relating to the Moon: An Overview and Evaluation*, 19 PROC. COLLOQUIUM L. OUTER SPACE 41, 44 (1976); Kopal, *Legal Questions Relating to the Draft Treaty of the Moon*, 16 PROC. COLLOQUIUM L. OUTER SPACE 184 (1979).

developed.<sup>76</sup> To the extent this is true, there may be no basis in fact, and certainly not in law, upon which to give special considerations to Third World states. Recalling that Mexican and Third World demands for changes in the international economic system would require the transfer of wealth from the developed to the developing states, it would thus seem appropriate to also ask developing countries to contribute to worldwide economic and social betterment to the extent that knowledge of the location and identification of natural resources allows.

The Common Heritage principle involves both rich and poor states. States are equal in the legal sense. It follows, therefore, that Third World demands for a written, legal document to provide special treatment regarding the benefits of remote sensing are not really legal. Rather, they are political. In the international political arena, where power rules, the interests of the less-powerful Third World countries would be better served if they recognized their limited influence and cooperated on a legally-based open dissemination program for remotely sensed data.

At any rate, it may be difficult at this point in remote sensing activity to apply the 1981 Mexican Principles and to restrict the present policy of open dissemination. This is particularly true because many of the existing data-receiving stations were created by internationally viable agreements between the United States and other states. It is difficult at best to legislate new international legal rules where technology has advanced beyond the capability of states to restrict it. Unless Mexico and other like-minded states alter their views somewhat, it is probable that remote sensing of natural resources by orbiting satellites will continue without specific legal guidelines. The concerns and fears of states regarding possible economic exploitation, invasion of privacy, weakening of security, and infringement on sovereignty are understandable; however, they are not sufficient to withhold remotely sensed information from anyone if the greater needs of mankind can be met by open dissemination. In any event, sensing states are unlikely to cease in the participation of an activity which they feel is so beneficial to them and to the rest of the world.

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76. For a strong argument which refutes traditional accounts of Third World exploitation by developed states, see generally P. BAUER, *EQUALITY, THE THIRD WORLD AND ECONOMIC DELUSION* (1981).



#### IV. SUMMARY AND CONCLUSION

Assessments of the Mexican position on remote sensing of the earth's natural resources by orbiting satellites have been made at various points in this article, especially in connection with the specific legal issues involved. Legal discussions will not be reiterated here, except to state that the 1981 Mexican Principles call for advance notification to the sensing state and prior approval before remotely sensed data is disseminated to third parties. Further, these attitudes are tied closely to Mexico's Third World membership and its historic relations with the United States. It is necessary, however, to consider the soundness of the Mexican views in the context of the global arena and general international interests.

Since no state denies to others national sovereignty over their natural resources, it is relevant to ask how, if at all, the Mexican requirements for advance notification and prior approval for dissemination in fact serve Mexico's best interests and those of the other developing countries. It is presumed that remotely sensed data in the possession of a party other than the sensed state might be used for exploitation. For this to occur, however, the sensing state either would not provide information to the sensed state at the same time it was provided to third parties, or the sensing state would provide no or incomplete information to the sensed state or to third parties or to both. If these assumptions are correct, it follows logically that if all remotely sensed information were made available to all interested parties, including, of course, the sensed state, no country would be adversely affected. The only other explanation for a state to oppose open dissemination lies somewhere in its domestic politics. The government in power, for whatever reason, might not wish its own citizens or private industries to be aware of new areas of natural resources. This would be an internal matter, however, and not one that would engage international political or legal considerations.

It is important to Third World states that they identify what resources they have. Equal access to all remotely sensed data regarding their resources, therefore, is important. They will not want it made available only to those few countries which operate satellites—the obvious result of a restrictive data-dissemination system. This result would exacerbate the division between rich and poor countries. Perhaps the only reliable way to protect states from being “comparatively disadvantaged or discriminated against is to insure that all states and all peoples have as much opportunity to

obtain that data as does anyone else.”<sup>77</sup> A restrictive data-dissemination system would seriously diminish progress around the world, the consequences of which would most seriously affect Third World states.<sup>78</sup>

The United States, as the leading sensing state, has, since the inception of remote sensing activities, followed an open policy of making data available to all interested states, international organizations, individuals, scientific communities, and others on an equitable and timely basis. It has been the United States’ position that an open and widely used system of data dissemination would enhance the ability of states to manage and control the natural resources within their respective states and provide the world with information which would allow better resource utilization.<sup>79</sup> Furthermore, the United States has negotiated numerous international cooperative agreements with other states to share in data distribution and the technological aspects of remote sensing.<sup>80</sup> Mexico is one of these states.<sup>81</sup>

As noted initially, because remote sensing helps to identify and locate new areas of natural resources, the technology can be used to

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77. Stowe, *supra* note 25, at 420. Stowe also states that besides identifying natural resources, remote sensing satellites enable “land use analysis, mapping, water quality studies, disaster relief, air and water pollution detection and analysis, protection and preservation of the environment, and many others.” *Id.* at 421. To consider only natural resources, is misleading, because all states, “[which include] especially developing countries, have broad and sometimes urgent interests in all of these uses.” *Id.* To refer only to data about resources, he believes, is also technically unrealistic, “because the same data base which gives information about resources gives information about all of these other uses . . . . To inhibit access to data about one potential use is to inhibit data about all other uses . . . . There are no data from these satellites which are peculiar to or which can be restricted to Earth resources.” *Id.*

78. It has been stated that “science and technology have a certain life of their own” and that it is “exceedingly difficult to turn the clock back on scientific discovery and ethnological applications. States rich in such science and technology seem compelled to assert both the need and the right to use and perfect these living forces. Such is the vitality and durability of the scientific-technological drive that it is quite possible that a given state would not be able to slow it down or divert it to sterile ends, even if the state were so inclined to do so.” *Id.* Furthermore, when remote sensing is examined, “it is seen that through it nothing is being done that is not being done in other ways—except that the other ways are slower, more tedious, more cumbersome, less specific, generally more ineffective, and, considering the return, probably more expensive. Undoubtedly, it is too much to ask of mankind that conscious limits be placed on man’s ability to gather information so that he may no longer perceive the nature of his mysterious natural universe.” *Id.*

79. Stowe, *supra* note 25, at 419-24.

80. For an explanation of United States policy and procedure regarding cooperation with other States in remote sensing activities, see Hosenball, *Free Acquisition and Dissemination of Data through Remote Sensing*, in *LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE* 105 (N. Matte & H. DeSaussure eds. 1976).

81. Gorove, *supra* note 13, at 77.

promote economic and social development around the world. The goals of economic betterment and global political stability require considerable cooperative effort. Remote sensing activities contribute to these objectives. Article I of the 1967 Outer Space Treaty states that the “exploration and use” of outer space shall be “for the benefit and in the interests of all countries.” In negotiating this agreement, states recognized that mankind had a common interest in the uses to which outer space could be put. Remote sensing is an example of how outer space can be used to deal with earthly problems. An opposite interpretation, one that rejects the use of space technology such as remote sensing to aid in world crop estimates, location of mineral resources and similar uses, is difficult to justify.