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Environmental Framework Laws in Latin America

FELIPE PÁEZ*

I. Introduction

In the rapidly changing global marketplace, Latin American countries face increased pressures to prevent environmental pollution as they struggle to become more productive and competitive economically. As they pursue these dual objectives, environmental protection and economic development, they are challenged to find a strategy to coordinate their policies, programs and regulations so that they are compatible rather than conflicting. In recent years, an increasing number of Latin American countries have adopted a comprehensive framework of laws. These laws attempt to integrate a variety of regulatory programs and provide for coordinated implementation.

This article examines the framework laws adopted by Brazil, Chile, Mexico, and Venezuela. A digest of each law explains the approach taken by each nation to achieve a more integrated strategy of environmental protection, while recognizing the importance of economic development. A brief analysis of the shared approaches taken by these governments follows the digests. That analysis evaluates the extent to which each country has considered the necessary variables that will enable it to achieve environmental protection under a single law.

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II. Brazil's Law Number 6938: The National Environmental Policy¹

A. Objectives

Brazil's Law No. 6938 has three purposes: to protect and enhance the existing environment, to reclaim the damaged environment, and to ensure sustainable socio-economic development.²

The Brazilian government relies on three tools to achieve these purposes. These are: (1) the adoption of a National Environmental Policy (NEP), (2) the creation of the National Environment Council (CONAMA), and (3) the institution of the Federal Technical Register of Environmental Defense Means and Activities.

B. National Environmental Policy

Brazil's law begins with the establishment of the NEP, a brief but broadly sweeping mandate establishing a unified approach towards protecting all aspects of the ecosystem. The following are the general objectives of the NEP:

1. achieving sustainable development consistent with environmental consciousness;
2. defining and protecting priority areas;
3. establishing quality criteria and standards and creating regulations under them;
4. carrying out research and development;
5. supporting education on the environment and safe technologies;
6. preserving resources and maintaining ecological equilibrium; and
7. preventing pollution through enforcement.³

1. National Environmental Policy, *Diário Oficial*, Lei 6938 (Braz.), available in WESTLAW, Enflex-Br Database, [hereinafter Brazil Law No. 6938].

2. *Id.* art. 2.

3. *Id.*

C. Implementation by Federal, State, and Local Agencies

Implementation of the National Environmental Policy is achieved under this law through coordinated roles assigned to federal, state, and local agencies, as well as non-governmental organizations (NGOs).⁴ These roles are assigned to the respective branches of government by the National Environmental System (SISNAMA).⁵ SISNAMA is composed of three different tiers of agencies and organizations. The top tier is represented by CONAMA.⁶ The second tier is the Special Environmental Agency (SEMA) of the Ministry of the Interior.⁷ The third tier is represented by the Federal Public Administration (composed of sectorial, sectional, and local agencies) and by NGOs.⁸

SISNAMA is given the following specific tools with which to effectuate the objectives of the NEP:

1. setting of emissions standards;
2. implementing environmental zoning;
3. conducting Environmental Impact Assessments;
4. licensing and reviewing of polluting activities;
5. creating incentives for installation of environmentally benign technologies;
6. creating protected areas;
7. creating a national environmental information system;
8. creating the Federal Technical Register of Means and Activities for the Defense of the Environment; and
9. establishing disciplinary measures for failure to implement the means.⁹

Responsibility for CONAMA is given to the Executive Branch. The Executive is empowered to establish the composition, organization, authority, and functions of the Council.¹⁰ The Executive does not, however, elect the representatives

4. *Id.* art. 6.

5. Brazil Law No. 6938, art. 6(I-V).

6. *Id.* art. 6(I).

7. *Id.* art. 6(II).

8. *Id.* art. 6(III).

9. Brazil Law No. 6938, art. 9(I)-(IX).

10. *Id.* art. 7.

who constitute CONAMA. These representatives are specified by the framework law, and include designees of state governments, presidents of several different industry and labor confederations, presidents of the Brazilian Association of Sanitation Engineering and the Brazil Nature Conservation Foundation, and representatives of NGOs selected by the President of the Republic.¹¹

Most of the authority given to CONAMA involves environmental protection. If licenses are proposed by SEMA, CONAMA has the authority to "establish, through a proposal of SEMA, rules and criteria for the licensing of potentially pollutant or pollutant activities. . . ."¹² Licenses are then issued to polluters by the states and supervised by SEMA. With the help of the competent ministries, CONAMA is further given authority to develop national "pollution control regulations and standards for motor vehicles, aircraft and sea vessels. . . ."¹³ CONAMA is also given the power to establish criteria and standards relating to control and maintenance of environmental quality (with an emphasis on water quality).¹⁴ Finally, CONAMA has the power to determine the necessity of environmental impact assessments for "public and private projects presented before Federal, State and Municipal agencies as well as private entities."¹⁵

The next tier of the system, SEMA, is given other powers and responsibilities. First, it has the authority to propose that CONAMA establish regulations and standards for the licensing of polluting or potentially polluting activities.¹⁶ Also, SEMA is given the responsibility to supervise and control the application of "environmental quality criteria, regulations and standards, in a role supplementary to the action of the competent state and municipal agencies. . . ."¹⁷ SEMA is also

11. *Id.* art. 7(a)-(d).

12. *Id.* art. 8(I).

13. Brazil Law No. 6938, art. 8(VI).

14. *Id.* art. 8(VII).

15. *Id.* art. 8(II).

16. *Id.* art. 11.

17. Brazil Law No. 6938, art. 11(1).

responsible for supervising public or private projects whose purpose it is to preserve or reclaim the environment.¹⁸

SEMA is also charged with the administration of the register for the Defense of the Environment established by this act.¹⁹ The purpose of this register is to achieve "mandatory registration of the natural or legal persons dedicated" to different aspects of pollution control.²⁰ This includes persons with technical expertise in pollution control, industrial expertise in pollution control, and persons involved in the trade of pollution control equipment, apparatus, or instruments.²¹ This is presumably one of the main tools which will help Brazil monitor and maximize the technical and trading experience of its citizens and industries.

Implementation at the different governmental levels is aided by incentives given to certain activities being carried out with regard to the environment. Such activities include: (1) national research and development on processes designed to reduce the degradation of environmental quality; (2) manufacturing anti-polluting equipment; and (3) any other initiative promoting the rationalization of the use of environmental resources.²² Furthermore, public agencies, entities, and programs whose function is to carry out research and development must give priority to environmental and ecological issues in pursuing their own agendas.²³

D. Permitting

Permitting of polluting or potentially polluting activities is carried out under SISNAMA, without regard to any other licenses required.²⁴ SEMA has the power to determine the reductions of emissions required to assure compliance with the limits set forth in the permit.²⁵ Licensing for petrochemi-

18. *Id.* art. 11(2).

19. *Id.* art. 17.

20. *Id.*

21. Brazil Law No. 6938, art. 17.

22. *Id.* art. 13(I)-(III).

23. *Id.* art. 13.

24. *Id.* art. 10.

25. Brazil Law No. 6938, art. 10(3).

cal, chemical, and nuclear facilities is delegated solely to the federal executive branch, after consultation with state and municipal governments.²⁶

Any project's receipt of financial incentives or other governmental incentives is conditioned upon successful compliance with proper licensing procedures.²⁷ Such incentives are only to be received by properly licensed projects and may continue to be received only while the project is in compliance with the rules, criteria, and standards issued by CONAMA.²⁸

E. Enforcement

SEMA is responsible for imposing penalties and fines on persons who violate environmental emission standards and permitting requirements.²⁹ CONAMA is given final power of review over "penalties and fines imposed by SEMA."³⁰ CONAMA is further given the authority to cancel or restrict financial benefits granted by public authorities or official credit institutions.³¹ Penalties under this law include fines, loss of incentives, loss or suspension of credit, and outright suspension of activities. Any entity that fails "to comply with the means necessary for the preservation or correction of the disturbances and damages caused by the degradation of environmental quality" is subject to enforcement action "without prejudice to the penalties laid down by [f]ederal Laws. . . ."³² Enforcement is carried out by the Secretary of the Environment through SEMA on a national level, and by states and municipalities on a regional level.

The standard of fault for polluters under the Brazilian law is strict liability.³³ In the language of the statute, polluters are held accountable for damages caused to the environment "irrespective of the existence of fault. . . ."³⁴

26. *Id.* art. 10(4).

27. *Id.* art. 12.

28. *Id.*

29. Brazil Law No. 3638, arts. 6(II), 9(IX).

30. *Id.* art. 8(III).

31. *Id.* art. 8(V).

32. *Id.* art. 14.

33. Brazil Law No. 6938, art. 14(IV)(1).

34. *Id.*

Furthermore, if any state or municipality fails to apply these enforcement provisions, the Secretary of the Environment has the authority to apply them.³⁵

Enforcement by suspension of activities follows a set pattern, depending on the length of the suspension.³⁶ Under this law, only the President of the Republic is empowered to impose an outright suspension of activities for a period exceeding thirty days.³⁷ If the suspension is to be less than thirty days, the Minister of State of the Interior has the authority to impose it if the Minister has received a proposal from the Secretary of the Environment, or a request to do so from a local government.³⁸ Decisions made by the Minister of the State of the Interior can be appealed to the President of the Republic.³⁹

The governors of the states, the federal district, and the territories have authority to take emergency measures "with a view to reducing to within the necessary limits, or shut down, for a maximum of 15 (fifteen) days, activities that pollute the environment."⁴⁰ Such emergency measures can be appealed to the Minister of the Interior.⁴¹

F. Protected Areas

All areas under current protection or the subject of international protection agreements shall become ecological reserves and are placed under the responsibility of SEMA.⁴² Any entities affecting such areas are subject to enforcement processes under this law.⁴³

35. *Id.* art. 14(IV)(2).

36. *Id.* art. 15.

37. Brazil Law No. 6938, art. 15.

38. *Id.* art. 15(1).

39. *Id.* art. 15(2).

40. *Id.* art. 16.

41. Brazil Law No. 6938, art. 16.

42. *Id.* art. 18.

43. *Id.*

III. Chilean Law Number 19.300: The Law on General Bases for the Environment⁴⁴

A. Objectives and National Role

The aim of this Chilean environmental law is to ensure the right to "live in an environment free of pollution," the right "to environmental protection [and] preservation of nature," as well as the right to the "conservation of the environmental heritage."⁴⁵ The Chilean law imposes legal liability for damaging the environment and establishes a standard for that liability. Surprisingly, the standard imposed is "intentional or willful damage,"⁴⁶ which is quite unlike the other framework laws discussed in this article which impose strict liability.

This law imposes novel obligations on the government itself, beginning with the "duty of the State to facilitate citizen participation and to promote educational campaigns aimed at environmental protection."⁴⁷ Control of arbitrary decisions issued by government agencies in the implementation and enforcement of this law is prevented by an ample system of appellate review.⁴⁸ Additionally, there is a built-in system of diligence in implementation which is motivated by strict timetables for review which favor the respondent.⁴⁹

B. Mechanisms of Implementation

The Chilean law sets out particular mechanisms for the implementation of its goals. Among them are environmental education and research at various levels in the educational system.⁵⁰ The law also allows for the financing of any envi-

44. Ley Bases del Medio Ambiente [The Law on General Bases for the Environment], Official Gazette of the Republic of Chile, Ley 19.300 (Chile), reprinted in 1 J. ENVTL. POL'Y & L. LATIN AM. & CARIBBEAN 163 (1994) (hereinafter Chilean Law 19.300).

45. *Id.* tit. I, art. 1.

46. *Id.* art. 3.

47. *Id.* art. 4.

48. Chilean Law 19.300, tit. 1, art. 5.

49. *Id.* tit. II, para. 2, art. 15. See discussion *infra*, III. C. *Forced Permitting*.

50. *Id.* para. 1, art. 6.

ronmentally related projects to be supplemented from "scientific, technological, and social development funds" established under the National Budget Law.⁵¹

C. Implementation through Environmental Review

1. The Environmental Impact Assessment System

Implementation of the Chilean law takes place mainly through the Environmental Impact Assessment System (EIAS).⁵² This system combines the permitting of projects and activities with the use of Environmental Impact Assessments (EIA) or Environmental Impact Declarations (EID).⁵³ Management of this system is delegated to the National Environmental Commission (NEC) or its corresponding Regional Environmental Commission (REC), as appropriate.⁵⁴

The EIAS requires the "head of any project or activity included in Article 10" to submit an EID or conduct an Environmental Impact Study (EIS), as appropriate.⁵⁵ Submission of the appropriate document is made to the REC in the region where the site is located.⁵⁶ If the project has potential "environmental impacts" on more than one region, submission must be made to the NEC.⁵⁷ If there is any doubt as to the potential for multi-regional impacts, the NEC decides where submissions are to be made.⁵⁸ It is the duty of the REC or NEC to request related reports from state bodies with environmental authority over the project.⁵⁹ The law includes a comprehensive list of projects or activities which are subject to the EIAS.⁶⁰ Projects or activities that qualify for the EIAS

51. *Id.* art. 7.

52. Chilean Law 19.300, tit. II, para. 2, art. 8.

53. *Id.*

54. *Id.*

55. *Id.*

56. Chilean Law 19.300, tit. II, para. 2, art. 9.

57. *Id.*

58. *Id.*

59. *Id.*

60. Chilean Law 19.300, tit. II, para. 2, art. 10(a)-(r) (1994). The list includes water supply and storage systems, power lines and their substations, electric power plants capable of producing an output greater than three Megawatts, nuclear reactors, land, water and air transportation terminals, develop-

system under this list are all subject to the same set of requirements, whether planned by public agencies or private entities.⁶¹ Military combat facilities, however, "shall be governed by their own regulations within the framework objectives of this law."⁶²

2. Submission of Environmental Impact Study

The responsible party for any project or activity on the preceding list has to submit an Environmental Impact Study if the project or activity satisfies one or more of the following criteria:

1. a risk to health;
2. adverse effects on renewable natural resources;
3. resettlement of communities, or any other alteration of peoples' lifestyles and customs;
4. proximity to towns, protected areas, or resources that may be affected, considering the environmental value of the areas in which the project or activity is to be implemented;
5. significant alteration of scenic or tourist values, measured in terms of magnitude and duration; or
6. alteration of monuments.⁶³

If an EIS is required, it must address the following: a description of the project or activity; the base line; a detailed description of the project or activity's potential environmental impacts; any possible risks to the environment; measures to eliminate or minimize adverse effects, and restoration plans to be carried out; follow-up plans; and a plan to meet the requirements of applicable environmental legislation.⁶⁴

ment projects, mining operations, carbon fuel facilities, manufacturing facilities, agro-industry facilities, forestry development sites, hydrobiological projects, hazardous materials handling operations, sanitation projects, park/reserve projects, and operations dealing with the application of chemicals. *Id.*

61. *Id.* tit. II, para. 2, art. 22.

62. *Id.*

63. Chilean Law 19.300, tit. II, para. 2, art. 11(a)-(f).

64. *Id.* art. 12(a)-(g).

When preparing an EIS for submission, parties planning the project or activity must adhere to the regulations, which will at least require them to:

1. list the public environmental permits required, the requirements to secure these permits, and the technical and official steps required to certify compliance with these requirements;
2. outline the required contents of the EIS under Articles 11 and 12; and
3. set forth the administrative procedure for processing the EIS, in accordance with Article 14.⁶⁵

The administrative procedure must include:

1. consultation and coordination with State and local bodies with permitting power over the activity;
2. establishment of a timetable for internal review of the procedure used for evaluation of EISs;
3. establishment of mechanisms to clarify, rectify, and expand the EIS;
4. the method of participation by citizen organizations; and
5. the method of notifying the submitting party of the ultimate ruling on the EIS.⁶⁶

3. Forced Permitting

The clear intent of Law 19.300 is to compel government agencies to be efficient in protecting the environment. It gives the REC or NEC 120 days to issue a ruling on an EIS.⁶⁷ The law states that the failure by the appropriate commission to rule on an EIS within this period shall be deemed an approval of the EIS.⁶⁸ When a favorable ruling on an EIS is obtained, permits or declarations required from state agencies must be issued expeditiously.⁶⁹ The appropriate commis-

65. *Id.* art. 13(a)-(c).

66. *Id.* art. 14(a)-(e).

67. Chilean Law 19.300, tit. II, para. 2, art. 15.

68. *Id.* art. 17.

69. *Id.* art. 15.

sion can require permit issuance within thirty days.⁷⁰ If the agencies fail to issue the permits or declarations within that period, they are deemed issued by default.⁷¹

4. Ruling on EIS

The Chilean law incorporates a very interesting feature in its EIS review process. A party submitting an EIS may be allowed to begin the project or activity before receiving a ruling on the EIS as long as it also submits an insurance policy covering the risk of environmental damage during a period of 120 days.⁷² The decision to allow a party to do this is made without prejudice to the commission's final ruling on the EIS. The necessary terms and conditions of such insurance are set out in regulations established under Article 15.⁷³ Within the 120 day period, the commission can request clarifications, amendments, or expansions of the EIS, and may grant the party an extension to comply with such a request.⁷⁴ Additionally, if agreed to by both sides, the final determination due date can be extended or suspended.⁷⁵

If the ruling on the EIS is negative, the basis for that decision must be set forth along with an explanation of what the party must do to meet applicable standards.⁷⁶ Approval is to be given if the EIS meets environmental standards, accepts responsibility for impacts caused by its project, and proposes appropriate mitigation, compensation, or restoration measures to counteract such impacts.⁷⁷

5. Environmental Impact Declaration (EID)

If a party is subject to the EIAS, but is not required to submit an EIS, it must present an EID.⁷⁸ The Declaration's form is a sworn statement affirming that the project or activ-

70. *Id.*

71. Chilean Law 19.300, tit. II, para. 2, art. 15.

72. *Id.*

73. *Id.* art. 16.

74. *Id.*

75. Chilean Law 19.300, tit. II, para. 2, art. 16.

76. *Id.*

77. *Id.*

78. *Id.* art. 18.

ity complies with, and will continue to comply with, all environmental legislation in force.⁷⁹ Additionally, the Declaration may include voluntary commitments not required by law.⁸⁰ Once such commitments are made, however, they are obligatory.⁸¹ The appropriate commission has a period of sixty days to rule on the Declaration.⁸² Here again, permitting agencies have the same thirty day period for the issuance of permits, as given in the case of an EIS approval.⁸³

If the commission finds that the EID is deficient, it may require corrections.⁸⁴ If mutually agreed, the time period for the evaluation procedure can be extended or suspended indefinitely.⁸⁵ The commission may extend the sixty day ruling period, once, by as much as thirty days.⁸⁶ If deficiencies are not rectified, or upon further analysis it is decided that the project requires an EIS, the EID will be rejected.⁸⁷

6. Contested Rulings

A party can contest a decision not to approve an EID by filing a claim with the Executive Director of the NEC.⁸⁸ A party can contest a decision not to approve an EIS or a decision to require one by filing a claim with the Board of Directors of the NEC.⁸⁹ Any such claim has to be filed within thirty days of notification.⁹⁰ The appropriate authority has sixty days after filing to reach a "reasoned decision."⁹¹ Within thirty days of notification of that decision, the party can bring an appeal before a "professionally qualified judge,"⁹² in accordance with Article 60 and the articles follow-

79. Chilean Law 19.300, tit. II, para. 2, art. 18.

80. *Id.*

81. *Id.*

82. *Id.*

83. Chilean Law 19.300, tit. II, para. 2, art. 18.

84. *Id.* art. 19.

85. *Id.*

86. *Id.*

87. Chilean Law 19.300, tit. II, para. 2, art. 19.

88. *Id.* art. 20.

89. *Id.*

90. *Id.*

91. Chilean Law 19.300, tit. II, para. 2, art. 20.

92. *Id.*

ing it in the law. The appropriate authority, or judge in the case of an appeal, has a duty to notify "all [s]tate bodies with the authority to resolve matters concerning the implementation of the project or activity in question" of the final decision.⁹³ In case of final rejection, a party is entitled to submit a new EID or EIS.⁹⁴

7. Inter-Agency Cooperation

In order to ensure consistency and proper management, the NEC has a duty to "seek to standardize any environmental criteria, requirements, conditions, background, certificates, proceedings, technical demands and procedures that the ministries and other competent State bodies may establish."⁹⁵ This effort is supplemented by the duty placed on Governors of municipalities to work together with the REC and coordinate compliance within their municipalities.⁹⁶

What otherwise appears to be a discretionary decision for the appropriate regulatory bodies in giving or withholding permits is actually mandatory. In fact, if the EIS or EID is approved, public permitting bodies must issue the appropriate permits.⁹⁷ Conversely, if the EIS or EID is denied, permitting bodies must deny permit applications, even if all other legal requirements are met.⁹⁸

8. Certificate of Compliance

Upon approving an EIS or EID, the appropriate commission issues a certificate of approval.⁹⁹ This certificate compels permitting bodies to act.¹⁰⁰ The certificate may contain conditions that must be carried out by the party.¹⁰¹ The party has a right to file a complaint contesting these condi-

93. *Id.*

94. *Id.* art. 21.

95. Chilean Law 19.300, tit. II, para. 2, art. 23.

96. *Id.*

97. *Id.* art. 24.

98. *Id.*

99. Chilean Law 19.300, tit. II, para. 2, art. 25.

100. *Id.*

101. *Id.*

tions under the Article 20 time period.¹⁰² Failure to file such a complaint constitutes acceptance of such requirements. If these requirements are not met, the party will be subject to sanctions under Article 64.¹⁰³

9. Community Participation

In general, the NEC or RECs must "ensure participation of the organized community in the evaluation of the EISs submitted to them."¹⁰⁴ Additionally, the commissions must order the party to publish, in a regional or national level publication, an approved abstract of the EIS within ten days of its submission.¹⁰⁵ The abstract must also be published in the country's official monthly publication (Official Gazette), and is required to contain the following:

1. the name of the party;
2. the location of the site or zone;
3. an indication of the type of project or activity involved;
4. the amount of estimated investment; and
5. the principal environmental effects and mitigation measures proposed.¹⁰⁶

The respective commission must send these extracts to the potentially affected municipalities for local publication.¹⁰⁷

Further citizen and NGO participation is assured in the form of an open information policy with respect to most, but not all, details of the project or activity.¹⁰⁸ Citizens and NGOs are also allowed to submit observations about the EIS to the competent body.¹⁰⁹ These submissions must be made "within [sixty] days of the respective publication of the extract."¹¹⁰

102. *Id.*

103. Chilean Law 19.300, tit. II, para. 2, art. 25.

104. *Id.* para. 3, art. 26.

105. *Id.* art. 27.

106. *Id.*

107. Chilean Law 19.300, tit. II, para. 3, art. 31.

108. *Id.* art. 28.

109. *Id.* art. 29.

110. *Id.*

The appropriate commission must "give consideration to such observations" in reaching a decision.¹¹¹ The commission must also notify any submitting NGOs that their submissions were considered.¹¹² Furthermore, citizens or NGOs whose observations have not been considered "may file a complaint before the authority superior to the official that allegedly failed to consider the observations within [fifteen] days following notification."¹¹³ Such an authority has thirty days to rule on the petition.¹¹⁴

One more tool for public participation is the required publishing by the NEC or REC of a list of projects or activities which were "subject to an Environmental Impact Declaration [and] that have been submitted for processing during the immediately preceding month."¹¹⁵ Publication must take place in the Official Gazette on the first day of each month, as well as in a local newspaper.¹¹⁶ Such lists must contain at least the first three items required in the official abstract.¹¹⁷

10. Environmental Quality Standards

It is left up to the regulations promulgated under this law to "establish the procedure to be followed for issuing environmental quality standards."¹¹⁸ However, there are some guidelines to be followed. The regulations must take into account at least the following:

1. technical and economic analysis;
2. scientific studies;
3. consultations with competent public and private entities;
4. examination of observations formulated; and
5. suitable publicity.¹¹⁹

111. Chilean Law 19.300, tit. II, para. 3, art. 29.

112. *Id.*

113. *Id.*

114. *Id.*

115. Chilean Law 19.300, tit. II, para. 3, art. 30.

116. *Id.*

117. *Id.*

118. *Id.* para. 4, art. 32.

119. Chilean Law 19.300, tit. II, para. 4, art. 32.

The regulations also require that deadlines be established for compliance with the procedures as well as "criteria for reviewing the standards in force."¹²⁰ Coordination of this procedure is to be carried out by the NEC.¹²¹ Further, the NEC must review these standards every five years.¹²²

National agencies are compelled to develop a program of measuring and controlling air, water, and land quality to ensure the right to pollution-free living.¹²³ Such programs are deemed to be regional in nature.¹²⁴ The responsibility of "proposing, facilitating and coordinating the issuance of emission standards" is placed on the NEC.¹²⁵

11. Protected Areas

The national government is further required to administer the National System of Protected Wildlife Areas, "which shall include parks and marine reserves" to ensure the preservation of nature.¹²⁶ It is also required to "promote and provide incentives for the establishment of privately owned protected wildlife areas" that would enjoy the same treatment as publicly owned ones.¹²⁷ Supervision of these areas is entrusted to the National System of Protected Wildlife Areas.¹²⁸ The areas to be protected include portions of beach lands, seashores, lakes, lagoons, reservoirs, waterways, marshes and other wetlands.¹²⁹

Regulations are to be issued which establish procedures for classifying flora and fauna species in such areas.¹³⁰ Authority is delegated to appropriate State bodies to "prepare and keep up to date an inventory of wild flora and fauna species," as well as establishing standards for their capture and

120. *Id.*

121. *Id.*

122. *Id.*

123. Chilean Law 19.300, tit. II, para. 4, art. 33.

124. *Id.*

125. *Id.* para. 5, art. 40.

126. *Id.* para. 4, art. 34.

127. Chilean Law 19.300, tit. II, para. 4, art. 35.

128. *Id.*

129. *Id.* art. 36.

130. *Id.* art. 37.

trade.¹³¹ Priority is to be given to species in the following categories: extinct, endangered, vulnerable, rare and insufficiently known.¹³²

Other than these protected areas, land use enjoys only a very broad inclusion in the framework. "The law shall ensure that land use is sound, in order to prevent its loss and degradation."¹³³

12. Resource Management

The aim of the resource management plan under the Chilean law is the careful use of renewable resources, including the biological diversity that is associated with those resources.¹³⁴ To help ensure this goal, public entities "in charge of regulating the use or exploitation of natural resources in a specific area [must] require the submission and fulfillment of resource management plans to ensure their conservation."¹³⁵ These plans are required to consider preservation of water resources, preservation of scenic value and protection of "endangered, vulnerable, rare or insufficiently known species."¹³⁶ However, the law does not make it clear who is to submit these plans.

13. Pollution Prevention and Reduction Plans

A vital part of the pollution prevention and reduction strategy of this law is the "declaration of [certain zones] in the territory as saturated or latent."¹³⁷ Establishment of pollution prevention plans to prevent and reduce pollution, and compliance with these plans "shall be compulsory in zones

131. Chilean Law 19.300, tit. II, para. 4, art. 38.

132. *Id.*

133. *Id.* art. 39.

134. *Id.* para. 6, art. 41.

135. Chilean Law 19.300, tit. II, para. 6, art. 42.

136. *Id.* art. 42.

137. *Id.* art. 43. Article 2 defines a latent zone as one in which the level of contamination is between 80% and 100% of the maximum allowable level under appropriate quality standards. A saturated zone is defined as one in which one or more environmental quality standards have been exceeded. *Id.* tit. I, art. 2(s), (t).

designated as latent or saturated.”¹³⁸ Such plans and requirements are explicitly separate from the requirements set forth for projects or activities for which an EIS or EID are required.¹³⁹ Furthermore, “polluting activities located in zones affected by prevention or pollution reduction plans . . . [are required] to reduce their emissions to levels that allow the objectives of the plan to be achieved in the time period established for that purpose.”¹⁴⁰

The “instruments” by which pollution prevention or reduction can be achieved include emission standards, tradable emission permits, emission taxes, and “other instruments that encourage environmental improvement and restoration activities.”¹⁴¹

14. Challenging Executive Decrees

The Chilean law establishes a procedure for filing claims against “executive decrees that establish primary and secondary environmental quality standards and emission standards.”¹⁴² To facilitate this process, executive decrees must be published in the Official Gazette.¹⁴³

Challenging the legality of any executive decree is possible if brought before a “competent professionally qualified judge.”¹⁴⁴ A person challenging a decree has thirty days from publication to challenge it, but “in no case” can the submission of such a claim result in an injunction of the decree being challenged.¹⁴⁵

D. Liability for Environmental Damage

1. Standards for Liability

A fault-based system of liability for pollution applies under this law to those who “willfully or intentionally” cause

138. *Id.* art. 44.

139. Chilean Law 19.300, tit. II, para. 6, art. 44.

140. *Id.* art. 45.

141. *Id.* art. 47.

142. *Id.* para. 7, art. 49.

143. Chilean Law 19.300, tit. II, para. 7, art. 49.

144. *Id.* art. 50.

145. *Id.*

environmental damage.¹⁴⁶ Thus, a present landowner or operator cannot be compelled to clean up a site if it was a past landowner or operator who caused the contamination.

Notwithstanding this fault-based language, this law establishes a presumption of liability.¹⁴⁷ If there are violations of environmental quality standards or pollution emergencies, the creator or "author" of the environmental damage is presumed liable.¹⁴⁸ The only burden to be met to establish liability in these cases, is to show a causal relationship between the author's acts and the damage produced.¹⁴⁹

2. Citizen Suit Provision

Any party who is adversely affected by environmental damage has the right to bring a civil suit against the party responsible for the damage, even if action is brought by the government to "obtain restoration of the environmental damage."¹⁵⁰ Such a party may have to be satisfied with entering litigation as an intervening third-party since only one entity, public or private, is allowed to bring a lawsuit arising from a particular harm.¹⁵¹ Citizens do not have to be directly affected to have standing in a lawsuit against a violating party. Under these circumstances, citizens "may require the municipality in whose boundaries environmental damage is being caused by activities conducted there to file an environmental lawsuit on [their] behalf on the basis of data that [they] must provide."¹⁵² If it chooses not to proceed, the municipality has forty-five days to give its reasoning.¹⁵³ If the municipality takes no action within this time, it becomes jointly and severally liable for the environmental damage.¹⁵⁴

146. *Id.* tit. III, para. 1, art. 51.

147. Chilean Law 19.300, tit. III, para. 1, art. 52.

148. *Id.* art. 52.

149. *Id.*

150. *Id.* art. 53.

151. Chilean Law 19.300, tit. III, para. 1, art. 53.

152. *Id.* art. 54.

153. *Id.*

154. *Id.*

3. Sanctions

If violations are present, in the form discussed below, the municipalities are ordered to require the judge, under Article 60, to enforce sanctions upon those responsible for at least one of several different offenses in the form of a reprimand, a fine, or temporary or permanent closure.¹⁵⁵ Such violations arise if a party is responsible under "pollution reduction plans, or with special regulations for environmental emergency situations, or . . . management plans referred to in this law."¹⁵⁶ If violations continue, an additional fine is imposed. If such sanctions are imposed, penalized parties "may not be sanctioned for the same offenses on the basis of provisions in other legal texts."¹⁵⁷

Considerations are taken into account for the imposition of fines on offenders. Such considerations consist of the gravity of the violation, any repeat offenses, the economic resources of the offender, and compliance with the commitments assumed in an EID or EIS.¹⁵⁸

4. Efficiency of Adjudication

The continued pressure, throughout this legislation, for the system to work quickly, is reiterated in Article 62. Cases involving environmental wrongs are to be given preference on the judicial docket and "suspension of such cases for any reason whatsoever shall not be allowed."¹⁵⁹ Furthermore, there is a five year statute of limitations on "environmental and civil lawsuits . . . [running from] the date on which environmental damage becomes evident."¹⁶⁰

E. Powers and Duties of Governmental or "State" Bodies

The appropriate state bodies are responsible for supervising compliance with conditions contained in an EIS or

155. Chilean Law 19.300, tit. III, para. 1, art. 56.

156. *Id.*

157. *Id.*

158. *Id.*

159. Chilean Law 19.300, tit. III, para. 2, art. 62.

160. *Id.* art. 63.

EID.¹⁶¹ Such state bodies have a duty to report any violations of such conditions to the REC or NEC, and request a warning, fine, or a revocation of the prior approval.¹⁶² An important role is also assigned to citizens, who can report lack of compliance with environmental regulations.¹⁶³

F. The Environmental Protection Fund

The law establishes the Environmental Protection Fund (EPF) "whose purpose is to provide total or partial financing for projects and activities to protect or restore the environment, to preserve nature or to conserve the environmental heritage."¹⁶⁴ Projects are to be chosen by the Executive Director of the NEC based on "general guidelines established by the Board of Directors of the Commission."¹⁶⁵ The EPF is funded from a variety of sources including private, non-governmental and governmental funds.¹⁶⁶

IV. Mexico's General Law of Ecological Equilibrium and Environmental Protection¹⁶⁷

A. Objectives

The Mexican framework seeks the establishment of the bases for:

defining principles of ecological policy and regulating the instruments for their application; ecological regulation; environmental preservation, restoration and improvement; protection of natural areas and land life; rational use of natural elements leading to sustainable development; prevention and control of air, water, and soil pollution; agreement between federal, state, and local government on the

161. *Id.* tit. IV, art. 64.

162. *Id.*

163. Chilean Law 19,300, tit. IV, art. 65.

164. *Id.* tit. V, art. 66.

165. *Id.* art. 67.

166. *Id.* art. 68.

167. La Ley General del Equilibrio Ecológico y la Protección al Ambiente [The General Law of Ecological Equilibrium and Environmental Protection], *Diario Oficial de la Federación*, arts. 1-194, Jan. 28, 1988 (Mex.), available in WESTLAW, ENFLEX-MX Database (hereinafter Mexican Law).

subject; coordination of agencies and bodies of Public Federal Administration, as well as appropriate participation of society.¹⁶⁸

B. Roles of Federal, State, and Local Authorities

Coordination of federal, state, and local authorities is specifically addressed under this law. The federal government is charged with "matters . . . with general scope for the nation or of federal interest."¹⁶⁹ The matters given to the federal government are wide-ranging, covering land, air, and water pollution prevention and protection, as well as hazardous waste regulation.¹⁷⁰

Specific responsibilities are given to different federal agencies and bodies. The law assigns the Social Development Secretariat (SEDESOL)¹⁷¹ multiple responsibilities including the implementation of this legislation, the formulation of a general ecological policy, the development of programs "to preserve and restore ecological equilibrium and [to] achieve integrated management of natural resources" and the issuance of technical standards.¹⁷² SEDESOL is also responsible for the formulation of ecological criteria to be used in applying the general ecological policy, the evaluation of environmental impact activities, and the application of technology to reduce vehicle emissions "in coordination with the Secretariats of Commerce and Industrial Development [SECOFI] and of Energy, Mines and Parastate Industry [SEMIP]."¹⁷³ SEDESOL must propose provisions to the President regarding hazardous waste handling with the Secretariat of Health, and regarding the "ecological effects of pesticides, fertilizers, and toxic substances," in coordination with the Secretariats

168. *Id.* tit. I, ch. I, art. 1.

169. *Id.* ch. II, art. 4(I).

170. *Id.* art. 5.

171. The Secretariat of Urban Development and Ecology (SEDUE), originally the national agency in charge implementing this law, has, in fact, been replaced by the Social Development Secretariat or SEDESOL as of May 1992. Greg M. Block, *One Step Away From Environmental Citizen Suits in Mexico*, 23 ENVTL. L. REP. 10347 (1993).

172. Mexican Law, tit. I, ch. III, art. 8(I)-(VII).

173. *Id.* art. 8(VIII)-(X), (XII).

of Agriculture and Hydraulic Resources [SARH] and of Health and SECOFI.¹⁷⁴

SEDESOL is given similar duties with respect to the Federal District.¹⁷⁵ SEDESOL is directed to exercise its powers in the "prevention and control of air pollution generated in the Federal District by fixed sources that do not function as commercial establishments and public spectacles," and work as necessary with the Department of the Federal District regarding moving sources of pollution.¹⁷⁶ SEDESOL is also directed to develop and issue emission standards for moving sources,¹⁷⁷ to monitor air pollution in the District,¹⁷⁸ to oversee the discharge of waste water from "District drainage systems into receiving bodies,"¹⁷⁹ to issue (with SARH and the Secretariat of Health) technical standards for "regulat[ing] withdrawal, exploitation, or use of waste water,"¹⁸⁰ as well as "technical standards for collection, treatment, and disposal of all kinds of residues in coordination with the Secretariat of Health."¹⁸¹ SEDESOL must also "prevent and control pollution caused by noise, vibrations, thermal energy, light and odors in cases of emission sources within federal jurisdiction,"¹⁸² and "determine the bases for organization and administration of national parks, and in coordination with the relevant agencies of other ecological preserves in the Federal District."¹⁸³

The Department of the Federal District itself is given responsibility to prevent and control "air pollution generated in the Federal District by fixed sources which function as commercial establishments or public spectacles and by all kinds

174. *Id.* art. 8(XI), (XIV).

175. *Id.* art. 9. The focus of efforts by the national government on a particular geographic area is an interesting aspect of this law. None of the other laws in this study directly addresses particular regions or cities in its mandates.

176. Mexican Law, tit. I, ch. III, art. 9(A)(I).

177. *Id.* art. 9(A)(II)-(III).

178. *Id.* art. 9(A)(V).

179. *Id.* art. 9(A)(VI).

180. Mexican law, tit. I, ch. III, art. 9(A)(VII).

181. *Id.* art. 9(A)(VIII).

182. *Id.* art. 9(A)(XI).

183. *Id.* art. 9(A)(XV).

of moving sources that circulate in its territory.”¹⁸⁴ The Department is responsible for setting up a verification system for vehicles in the District “in relation to air pollution,” as well as limiting circulation of vehicles “whose pollution emission levels exceed the maximum permissible limits determined by SEDESOL.”¹⁸⁵ The Department is further mandated to “establish . . . a policy for water reuse in the Federal District, in coordination with the SARH,” and to operate a waste water treatment system.¹⁸⁶ It is also up to the Department to decide where to dispose of solid waste.¹⁸⁷

The responsibilities given to state and local governments under this framework are vitally important and include waste water, urban development programs, ecological regulation, regulation of use of non-federally reserved minerals or other materials “which can only be used for manufacture of construction materials or decoration,”¹⁸⁸ preservation and restoration in population centers, and regulation and management of non-hazardous solid waste.¹⁸⁹ The responsibilities of the state and local governments are to be carried out either “exclusively or through shared participation with the federal government.”¹⁹⁰

States and local governments are further compelled to apply the ecological technical standards issued by SEDESOL. States and local governments are given the right to request technical assistance from SEDESOL to ensure this application.¹⁹¹ SEDESOL can enter, “with the participation of other agencies,” into coordination agreements with state and then with local governments through the state.¹⁹² This is similar to the U.S. approved state permitting scheme under the Clean Water Act (CWA).¹⁹³

184. Mexican Law, tit. I, ch. III, art. 9(B)(I).

185. *Id.* art. 9(B)(II).

186. *Id.* art. 9(B)(VII).

187. *Id.* art. 9(B)(X).

188. Mexican Law, tit. I, ch. II, art. 6(IX)-(XI).

189. *Id.* art. 6(XII), (XIII).

190. *Id.* art. 4(II).

191. *Id.* art. 7.

192. Mexican Law, tit. I, ch. II, art. 7.

193. See Federal Water Pollution Control Act § 402, 33 U.S.C. § 1342 (1994).

An important national mechanism established to accomplish the aims of this framework law is the National Ecology Commission (FEC).¹⁹⁴ FEC's role is seen as a coordinating tool among secretariats, as well as a "forum to promote cooperation between the public and the State in this area."¹⁹⁵ The Commission must "analyze problems and propose ecological priorities, programs and actions."¹⁹⁶ Representation on the Commission could include members of federal agencies and "bodies whose powers are related to the Commission's purpose,"¹⁹⁷ such as representatives of state and local government, the private and public sectors, industry representatives, civil organizations, educational institutions, and "others representative of the society."¹⁹⁸

C. Principles of Ecological Policy

The Mexican law incorporates certain principles that SEDESOL and other appropriate governing bodies must observe when carrying out the "formulation and implementation of ecological policy and issuance of technical standards and other instruments provided for herein, relating to preservation and restoration of ecological equilibrium and environmental protection."¹⁹⁹ These principles include sustainable development, proper use of renewable and non-renewable natural resources, pollution control and prevention, cooperation among federal, state and local governments, as well as individuals and social groups, a good neighbor policy with foreign nations and the right to enjoy a healthy environment.²⁰⁰

D. Instruments of Ecological Policy

Several different instruments of ecological policy are to be used in carrying out this law.

194. Mexican Law, tit. I, ch. III, art. 12.

195. *Id.*

196. *Id.*

197. *Id.*

198. Mexican Law, tit. I, ch. III, art. 12.

199. *Id.* ch. IV, art. 15.

200. *Id.* art. 15(I)-(XIV).

1. Broad Mandates

The first instrument is "ecological planning," and includes two broad mandates. One is that national development planning should take into account ecological policy and regulations established under this law.²⁰¹ The other is that the federal government "stimulate participation by the different social groups in preparation of programs which have as their purpose preservation and restoration of ecological equilibrium and environmental protection."²⁰²

2. Environmental Protection through Land Use Planning

Certain criteria are to be followed when establishing ecological regulations under this law. The driving force behind these criteria is the need to take into account sustainable development in conjunction with existing "human settlements" in different ecological areas with different needs.²⁰³ The criteria take into account the need to regulate, through permitting and financial leverage, the use of water, forests, land and aquatic flora and fauna species, and agricultural resources.²⁰⁴ The success of a sustainable development approach is aided by providing for tax incentives "oriented toward promoting proper location of productive activities,"²⁰⁵ financing of projects to guide their proper location,²⁰⁶ and proper consideration of ecological regulation when authorizing "construction or operation of industrial commercial or service plants or establishments."²⁰⁷ Ecological regulations must consider land use issues such as the "creation of territorial preserves and determinations of use, supply, and future of urban soil,"²⁰⁸ and the "urban organization of territory and

201. *Id.* ch. V, art. 17.

202. Mexican Law, tit. I, ch. V, art. 18.

203. *Id.* art. 19(I)-(V).

204. *Id.* art. 20(I)(a)-(f).

205. *Id.* art. 20(II)(c).

206. Mexican Law, tit. I, ch. V, art. 20(II)(b).

207. *Id.* art. 20(II)(d).

208. *Id.* art. 20(III)(b).

the Federal Government programs for infrastructure, urban services, and housing.”²⁰⁹

All government agencies must observe the ecological criteria established under this law in carrying out their various duties.²¹⁰ Furthermore, tax incentives are to be granted with priority given to “activities related to preservation and restoration of ecological equilibrium and environmental protection.”²¹¹

The federal, state, and local governments must oversee urban development and housing policy “in order to maintain, improve, or restore the balance of human settlements with natural elements and assure improvement of the quality of life of the population.”²¹² This ideal is to be the guiding force assuring the proper development of general urban development and housing policy, sectorial programs for urban development and housing, and standards for urban development issued by SEDESOL.²¹³ Thus, state and local development programs must ensure the “necessary proportions which must exist between open space and buildings for residential use, for services, and other activities generally and integration of highly valuable historic and cultural property with open space and social living areas.”²¹⁴ Furthermore, any housing programs undertaken by or financed by the federal government must promote “retention of the proper relationship with natural elements” and ensure the incorporation of “ecological and environmental protection criteria both in design and in applied technology.”²¹⁵

3. Environmental Impact Assessment

The Mexican framework law requires public or private works to seek environmental authorization when their activities “may cause ecological imbalance or exceed the limits and

209. *Id.* art. 20(III)(c).

210. Mexican Law, tit. I, ch. V, art. 21.

211. *Id.* art. 22.

212. *Id.* art. 23.

213. *Id.* art. 25.

214. Mexican Law, tit. I, ch V, art. 26(III)-(IV).

215. *Id.* art. 27(I)-(II).

conditions provided for in the ecological technical standards and regulations issued by the Federal Government.”²¹⁶ These activities may be permitted “through [SEDESOL] or the state or local agencies,”²¹⁷ as appropriate, only after the submission and subsequent evaluation of a corresponding Environmental Impact Statement (EIS).²¹⁸ The EIS must include a study of the risk of the work, of its foreseen activities, and corrective measures to mitigate adverse effects on ecological equilibrium during execution, normal operation, and in the event of an accident.”²¹⁹ SEDESOL is responsible for evaluating EISs submitted for most types of projects, including the construction of manufacturing, processing, and production facilities.²²⁰ The state and local governments “are to evaluate environmental impact in relation to subjects not reserved to the Federal Government in this or other laws.”²²¹ SEDESOL is also responsible for establishing a registry of businesses that can carry out environmental impact studies.²²² Such businesses can become registered by meeting certain technical criteria and other procedures to be established by SEDESOL.²²³

Once the EIS is filed and found to fulfill established requirements,²²⁴ it becomes public information, except those parts that constitute industrial property rights or legitimate commercial interests.²²⁵ All entities, public or private, have the opportunity to oppose the project. The appropriate governing body, after review of the EIS, may either grant permission for execution of the work, deny it, or grant it conditionally.²²⁶

216. *Id.* art. 28.

217. *Id.*

218. Mexican Law, tit. I, ch. V, art. 32.

219. *Id.*

220. *Id.* art. 29.

221. *Id.* art. 31.

222. Mexican Law, tit. I, ch. V, art. 32.

223. *Id.*

224. *Id.* art. 33.

225. *Id.*

226. Mexican Law, tit. I, ch. V, art. 34.

4. Technical Standards

Specific technical standards govern the implementation of this law. These standards, issued by SEDESOL, are required to take into account the interest of public welfare as well as the assurance of "preservation and restoration of ecological equilibrium and environmental protection."²²⁷ All potential emitters of any type of discharge which could cause environmental damage are required to "observe the limits and procedures established in the applicable ecological technical standards."²²⁸

5. Education

In drafting this law, the legislature recognized the need to educate the public about the environment, as well as the need for further research on the subject. Accordingly, "the competent authorities" are directed to incorporate "ecological content in the several educational cycles."²²⁹ Additionally, SEDESOL, in conjunction with the Secretariat of Public Education (SEP), is given the responsibility of "stimulat[ing] institutions of higher education and bodies engaged in scientific and technological research to develop plans and programs for preparation of specialists in the subject matter and for research into the causes and effects of environmental phenomena."²³⁰

A separate governmental agency, the Secretariat of Labor and Social Planning (STPS), is given responsibility for promoting "development of training in, and for jobs on, environmental protection and preservation and restoration of ecological equilibrium."²³¹ Additionally, the federal government, as well as the state and local governments, is authorized to make agreements to "support scientific research and promote programs for development of techniques and procedures that

227. *Id.*

228. *Id.* art. 37.

229. *Id.* art. 39.

230. Mexican Law, tit. I, ch. V, art. 39.

231. *Id.* art. 40.

. . . prevent, control and reduce pollution, or contribute to rational use of resources and protection of ecosystems."²³²

6. Information and Oversight System

To achieve lasting results, the Mexican law incorporates provisions for the establishment and maintenance by SEDESOL of a "permanent information and oversight system on ecosystems and their equilibrium in Mexican territory."²³³ SEDESOL is further required to "publish a gazette in which it will publish the ecological technical standards . . . as well as resolutions, orders, decisions, circulars, notices, announcements, and generally, all communications issued thereby and any other information which it determines, independent of the publication thereof in the federal [*Diario Oficial*]."²³⁴

E. Protection of Natural Areas

The Mexican law requires the federal, state and local governments to establish measures to protect natural areas.²³⁵ These measures require that no development activities are to be carried out in such areas unless they are socially and nationally necessary.²³⁶

The general purposes for establishing protected areas include the preservation of genetic diversity, the assurance of "equilibrium and continuity of evolutionary and ecological processes,"²³⁷ the rational use of ecosystems, use of such areas for scientific study, preservation of watersheds, and protection of historical remains.²³⁸ These protected natural areas include nine different types: biosphere preserves, special biosphere preserves, national parks, natural monuments, national marine parks, areas for protection of natural resources, areas for protection of flora and fauna, urban parks,

232. *Id.* art. 41.

233. *Id.* art. 42.

234. Mexican Law, tit. I, ch. V, art. 43. The *Diario Oficial* is the official daily newspaper published by the federal government.

235. *Id.* art. 38.

236. *Id.* tit. II, ch. I, art. 44.

237. *Id.* art. 45(I).

238. Mexican Law, tit. II, ch. I, art. 45.

and zones subject to ecological conservation.²³⁹ The first seven are said to be of "federal interest," leaving the last two subject to state jurisdiction.²⁴⁰ Development of such areas is required to take into account the needs of its residents. This is ensured by the formation of "cooperation agreements . . . in order to encourage integrated development of the community and [to] assure protection of the ecosystems."²⁴¹

Decrees establishing protected areas "must be published in the [*Diario Oficial*] and prior notice must be given to the owners or occupants of the land affected."²⁴² It is noteworthy that once a protected area is established, its uses cannot be altered by any authority other than that which established it.²⁴³

Any explorative or exploitative venture to be carried out in a protected area can obtain permits, licenses, concessions, or any type of authorization only after proving "to the competent authority its technical and economic capacity to effect the exploration, exploitation or use at issue without causing deterioration to the ecological equilibrium."²⁴⁴ If certain parties have difficulty complying with this demand, the SARH and the Secretariat of Agrarian Reform (SAR) can "render . . . technical assistance necessary to comply with the provisions."²⁴⁵ SEDESOL is given the authority to ask the "competent authority to cancel or revoke the corresponding permit, license, concession, or authorization when the exploration, exploitation, or use of resources causes or may cause deterioration to the ecological equilibrium."²⁴⁶ SEDESOL can exercise this authority after engaging in socioeconomic and technical studies.²⁴⁷

Protected areas of interest to the federal government are placed under the National Protected Natural Areas Sys-

239. *Id.* art. 46.

240. *Id.*

241. *Id.* art. 47.

242. Mexican Law, tit. II, ch. I, art. 61.

243. *Id.* art. 62.

244. *Id.* art. 64.

245. *Id.*

246. Mexican Law, tit. II, ch. I, art. 64.

247. *Id.*

tem.²⁴⁸ A register of the areas in the system is to be kept by SEDESOL to aid its oversight.²⁴⁹ Further protection of these and other natural areas is insured by requesting that the competent federal agency²⁵⁰ include proper measures in their handling of areas under their administration. State authorities are required to adopt a management base for the "oversight of natural areas within the national system."²⁵¹ Social groups and individuals are allowed to aid in the achievement of the goals for each protected area through coordination agreements.²⁵²

Criteria to be followed regarding terrestrial and aquatic flora and fauna include the protection of genetic resources, protection of representative areas of ecological systems, recovery of endangered species, measures against "illegal traffic in species,"²⁵³ strengthening of biological stations, and cooperation with the community.²⁵⁴ The criteria must be followed when granting concessions, permits or other authorization or otherwise formulating plans involving the use, possession, management, conservation, repopulation, propagation, and development of terrestrial and aquatic flora and fauna.²⁵⁵ SEDESOL must establish or promote closed seasons for flora and fauna where necessary.²⁵⁶ Any decrees made pursuant to this responsibility must be published in the *Diario Oficial* of the state where the protected area is located.²⁵⁷ SEDESOL establishes technical standards "for conservation and use of habitat of land and aquatic flora and fauna."²⁵⁸ With regard to terrestrial fauna species, this law provides that their use in economic gain can only be authorized if the individual using them guarantees "their controlled reproduction and de-

248. *Id.* ch. II, art. 76.

249. *Id.* art. 77.

250. Mexican Law, tit. II, ch. II, art. 78.

251. *Id.*

252. *Id.*

253. *Id.* ch. III, art. 79(IV).

254. Mexican Law, tit. II, ch. III, art. 80(I).

255. *Id.* art. 80(I).

256. *Id.* art. 81.

257. *Id.*

258. Mexican Law, tit. II, ch. III, art. 84.

velopment in captivity and provides a sufficient number for repopulation of the species."²⁵⁹

F. Rational Use of Natural Resources

Rational use of "natural elements," particularly the use of water, soil, and non-renewable resources, is covered under this law as well.²⁶⁰ The Mexican legislature recognized the vital role that water plays in the natural equilibrium, both on land and in aquatic ecosystems. Preservation of this equilibrium is to be considered in the:

[f]ormulation and integration of the National Hydraulic Program; . . . [g]rant of concessions, permits, and . . . authorizations for use of natural resources or realization of activities that affect or may affect the hydraulic cycle; . . . [g]rant of authorization for rechanneling, extraction, or derivation from waters owned by the nation; . . . [e]stablishment of prohibitions on access to subterranean waters; [and s]uspensions decreed by the Federal Executive Branch pursuant to the Federal Water Law, of those uses, works and activities that damage national hydraulic resources or affect the ecological equilibrium in a region.²⁶¹

Careful management of aquatic resources, living and non-living,²⁶² includes not only a permitting system,²⁶³ but also the observance of technical standards issued by SEDESOL in coordination with SARH.²⁶⁴

Criteria for the "rational use of soil and its resources"²⁶⁵ stress the need to use land in a way that assures the maintenance of its "physical integrity and productive capacity,"²⁶⁶ while insuring that the equilibrium of ecosystems will not be upset. Recovery of land under current stress should thus be

259. *Id.* art. 87.

260. *Id.* tit. III, ch. I, art. 88.

261. *Id.* art. 89.

262. Mexican Law, tit. III, ch. I, art. 94.

263. *Id.* art. 95.

264. *Id.* art. 96.

265. *Id.*

266. Mexican Law, tit. III, ch. II, art. 98.

carried out with the use of "cultivation and technology."²⁶⁷ Furthermore, regenerative actions must be included in plans for projects where detrimental land use is required for the "realization of public or private works that in and of themselves may provoke severe deterioration [of the] land."²⁶⁸

These criteria are to be taken into account in the "operation and administration of a National Land System and of territorial preserves for urban development and housing."²⁶⁹ They must also be taken into account when the federal government: supports farming activities in any way; establishes population centers; grants tax incentives; establishes protective forest zones; institutes provisions, programs, and technical guidelines for soil conservation; and considers the implementation or permitting of other activities affecting the balancing role played by soil in different ecosystems,²⁷⁰ including jungle ecosystems.²⁷¹

Restoration of ecological equilibrium in land zones which show "serious ecological imbalance,"²⁷² is required by the Mexican law, as is the protection of areas that are prone to desertification.²⁷³ Decrees that are issued to regulate land use or the use of resources in these and other types of areas is required to be published in the federal *Diario Oficial*.²⁷⁴ After receiving notice, interested parties have twenty days to address the concerns or requirements set forth in these decrees.²⁷⁵

The framework law incorporates a powerful tool for the insurance of proper land use. It requires that "all acts, agreements or contracts which contravene that referred to in [federal] decree[s] shall be void."²⁷⁶ Thus, interested parties can

267. *Id.* art. 98(IV).

268. *Id.* art. 98(V).

269. *Id.* art. 99(III).

270. Mexican Law, tit. III, ch. II, art. 99.

271. *Id.* arts. 101, 102.

272. *Id.* art. 105.

273. *Id.*

274. Mexican Law, tit. III, ch. II, art. 105.

275. *Id.*

276. *Id.* art. 106.

be seriously hindered if they do not adhere to federal decrees when undertaking any use of areas covered by such decrees.

The Mexican law does not address the prevention of exploration and exploitation of non-renewable resources, but only the mitigation of their effects. Measures required are, therefore, not very stringent, as the law only requires that SEDESOL issue technical standards permitting the reuse of water produced during such activities, the repair of topographic changes caused by these activities, and the proper management of the waste produced by these activities.²⁷⁷

G. Environmental Protection

Title IV of the Mexican law addresses environmental protection. Each of the seven chapters under this title covers a separate topic: air pollution, water pollution, soil pollution, hazardous activities, hazardous materials and residues, nuclear energy, and non-conventional pollution, respectively. As seems customary throughout the law, each chapter concentrates on establishing criteria to be considered, followed by the measures to be used to ensure protection under those criteria.

1. Air Pollution

With regard to the prevention and control of air pollution, important criteria include the consideration of human welfare in all regions and of the national ecological equilibrium.²⁷⁸ As in several previous provisions, the prevention and control of air pollution is divided into a list of responsibilities divided among SEDESOL and state and local agencies. SEDESOL is responsible for issuing standards "in coordination with the Secretariat of Health specifying permissible levels of emission . . . by pollutant and by polluting source[s] as well as] standard[s] for establishment and operation of air quality monitoring systems"²⁷⁹ and standards to be followed

277. *Id.* ch. III, art. 108.

278. Mexican Law, tit. IV, ch. I, art. 110.

279. *Id.* art. 111(I), (III).

by the automotive industry in reducing emissions.²⁸⁰ SEDESOL is also responsible for "requir[ing] installation of emission control equipment with those who engage in polluting activities in metropolitan areas located in two or more states and when property or zones in federal jurisdiction are at issue."²⁸¹

State and local governments are responsible for preventing and controlling air pollution on "the property and zones within state jurisdiction."²⁸² This includes industrial and vehicular sources, both public and private.²⁸³ State and local governments are also responsible for the enforcement of provisions they enact to carry out their responsibilities.²⁸⁴ State and local governments do not enjoy complete autonomy under this air pollution control scheme. They are responsible for following the technical standards established by the Secretariat of Urban Development and Ecology (SEDUE). Furthermore, they require prior authorization from SEDESOL regarding any release of hazardous materials or residues into the air.²⁸⁵ Certain businesses which help achieve established criteria are eligible for tax incentives whether they are under state or federal jurisdiction.²⁸⁶

2. Water and Soil Pollution

The Mexican law's approach to protection of water and soil resources follows substantially the same pattern as its approach to air pollution. Responsibilities are divided among SEDESOL (working along with other appropriate federal agencies) and the state and local governments.²⁸⁷ These governing bodies are bound by this law to follow criteria which seek to prevent and control water and soil pollution.²⁸⁸ Both

280. *Id.* art. III(V).

281. *Id.* art. 111(II).

282. Mexican Law, tit. IV, ch. I, art. 112(I).

283. *Id.* art. 112.

284. *Id.* art. 112(X).

285. *Id.* art. 113.

286. Mexican Law, tit. IV, ch. I, art. 116.

287. *Id.* tit. IV, ch. II, arts. 117-33.

288. *Id.* art. 117.

sets of criteria take into account endangerment to ecological systems as well as protection of human health.²⁸⁹

3. Regulation of Hazardous Activities, Materials, and Residues

SEDESOL and several other federal agencies are responsible for formulating a list of ultra hazardous activities and publishing it in the federal *Diario Oficial*.²⁹⁰ Companies undertaking ultra-hazardous activities must obtain approval of their plans from appropriate governmental agencies.²⁹¹

The handling of hazardous material and residues, listed by SEDESOL in the *Diario Oficial*, resulting from an ultra-hazardous activity or any other type of activity must meet certain standards.²⁹² Operations dealing with the "installation and operation of systems for collection, warehousing, transportation, storage, reuse, treatment, recycling, burning, and final disposal of hazardous residue" must get prior authorization from SEDESOL.²⁹³

The Federal Executive is in charge of establishing regulations controlling the import and export of hazardous materials and residues.²⁹⁴ The import and export of these materials is creatively handled by this law, which incorporates a temporary import system. This system allows the import of hazardous materials necessary for certain types of production.²⁹⁵ Any hazardous residues created in this production are then returned to the country of origin within a certain time.²⁹⁶

4. Nuclear Energy

Nuclear energy receives short but broad attention. The Mexican framework mandates the assurance of safety stan-

289. *Id.*

290. Mexican Law, tit. IV, ch. IV, arts. 145, 146.

291. *Id.* art. 147.

292. *Id.* ch. V, art. 152.

293. *Id.* art. 151.

294. Mexican Law, tit. IV, ch. V, art. 153.

295. *Id.*

296. *Id.* art. 153(VI).

dards by responsible agencies, as well as the realization of an "evaluation of environmental impact" by SEDESOL.²⁹⁷

5. Other Forms of Pollution

This framework law addresses types of pollution often left to municipal authorities to control. These forms of pollution are no less valid than those dealt with above, and they include "noise, vibrations, thermal energy, lighting, odors, and visual pollution."²⁹⁸ SEDESOL is in charge of issuing technical standards to control these types of pollution.²⁹⁹ It is then up to the federal and state authorities to "adopt measures to impede exceeding said limits and, as applicable . . . impose . . . corresponding sanctions."³⁰⁰

H. Public Participation

The Mexican framework provides for several different types of public participation in the formation and application of the law.³⁰¹ This participation does not take the form of citizen suits.³⁰² Instead, the law involves the public by promoting the formation of "cooperation agreements" with different representative groups.³⁰³

For example, SEDESOL is required to "execute cooperation agreements with labor organizations for environmental protection in the work place and residential units; with campesino organizations and rural communities for establishment, administration, and management of protected natural areas . . . [and] with civil organizations and private non-profit institutions to undertake joint ecological action."³⁰⁴

297. *Id.* ch. VI, art. 154.

298. Mexican Law, tit. IV, ch. VII.

299. *Id.* art. 155.

300. *Id.*

301. *Id.* tit. V, art. 158.

302. Citizens are, however, entitled to file public denunciations. See discussion *infra*, part IV(H)(5).

303. Mexican Law, tit. V, art. 158.

304. *Id.* art. 158(11).

I. Enforcement

Mexico's framework is enforced through a system of inspection and oversight,³⁰⁵ and emergency powers given to SEDESOL.³⁰⁶ The law provides for administrative sanctions,³⁰⁷ criminal sanctions,³⁰⁸ public denunciations,³⁰⁹ and appeals.³¹⁰

1. Oversight

"Competent authorities may undertake, through duly authorized personnel, inspection visits, without prejudice to other measures provided for in the laws that may be taken to verify compliance herewith."³¹¹ Who these "competent authorities" are depends on agreements executed among federal, state, and local agencies.³¹² Inspections are followed by a report which outlines any negative facts or omissions found during the inspection.³¹³ Companies are then compelled to take corrective action based on the report, unless they successfully show evidence negating the findings.³¹⁴

2. Emergency Powers

Certain conditions authorize SEDESOL to take emergency action by ordering the "confiscation of polluting materials or substances, temporary closure, total or partial, of the corresponding polluting sources."³¹⁵ An emergency under the statute is an "imminent risk of ecological imbalance or cases of pollution with repercussions dangerous for ecosystems, their components, or public health."³¹⁶

305. *Id.* tit. VI, ch. II.

306. *Id.* art. 170.

307. Mexican Law, tit. VI, ch. IV.

308. *Id.* ch. VI.

309. *Id.* ch. VII.

310. *Id.* ch. V.

311. Mexican Law, tit. VI, ch. II, art. 162.

312. *Id.* art. 161.

313. *Id.* art. 164.

314. *Id.* art. 167.

315. Mexican Law, tit. VI, ch. III, art. 170.

316. *Id.*

3. Administrative Sanctions and Appeals

Administrative sanctions can be imposed on violators of this law by SEDESOL, who has the power "in federal matters not specifically reserved to another agency"³¹⁷ to impose these sanctions. When appropriate, the state and local governments can also impose sanctions. Possible sanctions include fines, temporary or final closures, or even "administrative arrest" for up to thirty-six hours.³¹⁸ Subsequent continuation of infractions can lead to a doubling of fines.³¹⁹ Additionally, if the "gravity of the infraction so warrants," the authority imposing sanctions is compelled to "request the grantor who extended it to suspend, revoke, or cancel the concession, permit, license, and generally, any authorizations granted for realization of commercial, industrial, or service activities, or for use of natural resources that gave rise to the infraction."³²⁰ A sanction can be appealed within fifteen days of receiving notice.³²¹ This appeal is called an "appeal on nonconformity" and must be in writing.³²² If the appeal is submitted in a timely fashion, the governmental agency has fifteen days to examine the evidence presented.³²³ In the meantime, execution of the suspension can, itself, be suspended until the appeal is processed.³²⁴

4. Criminal Sanctions

Federal criminal charges may arise in cases of flagrant violations or by formal accusation by SEDESOL.³²⁵ Any defendant accused of such violations can receive a prison sentence ranging from three months to six years, and a fine ranging from one hundred to 10,000 days of "general minimum wage in effect in the Federal District."³²⁶ If the defend-

317. *Id.* ch. IV, art. 171.

318. *Id.*

319. Mexican Law, tit. VI, ch. IV, art. 171.

320. *Id.* art. 172.

321. *Id.* ch. V, art. 176.

322. *Id.* art. 177.

323. Mexican Law, tit. VI, ch. V, art. 179.

324. *Id.* art. 180.

325. *Id.* ch. VI, art. 182.

326. *Id.* art. 183.

ant is charged with an action involving hazardous activities which have been effected in a population center, the prison sentence can have three more years added to it and the fine can be increased to 20,000 days of minimum wage value.³²⁷

5. Public Denunciation

The last tool of enforcement presented in the Mexican law is the filing of a public denunciation.³²⁸ This provision is similar, but not quite equivalent to a citizen suit provision. The provision allows anyone to file a "denunciation . . . of any fact, act or omission . . . that produces ecological imbalance or injury to the environment, in contravention to the provisions of this law and the other provisions that regulate subjects related to environmental protection and preservation and restoration of ecological equilibrium."³²⁹ Such a denunciation is to be filed with SEDESOL, or the municipal authority if necessary.³³⁰ SEDESOL, or the appropriate local authority, then has the responsibility to investigate the "facts denounced"³³¹ and to notify the filer of their investigation.³³² If the investigation produces sufficient evidence of liability, the sanctions described above can then be imposed on the responsible party.³³³

V. Venezuela's Land Use Planning Act of 1983³³⁴

Unlike the other laws reviewed by this article, the Venezuelan Land Use Planning Act of 1983 is not an all-encompassing framework for nation-wide environmental protection. It is included here because of its novel approach in adopting a framework that seeks to protect the environment through

327. Mexican Law, tit. VI, ch. VI, art. 183.

328. *Id.* ch. VII, art. 189.

329. *Id.*

330. *Id.*

331. Mexican Law, tit. VI, ch. VII, art. 192.

332. *Id.* art. 193.

333. *Id.* art. 192.

334. Venezuelan Land Use Planning Act, Gaceta Oficial de la República de Venezuela, Ley 3.238 (Venez.), reprinted in FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, 33 FOOD & AGRIC. LEGIS., Dec. 1984, at 9 (hereinafter Venezuelan Law).

land use planning strategies. Although this act has yet to be implemented in Venezuela, it speaks to the importance that the Venezuelan legislature has placed on land use regulation as an effective means of protecting the environment.

A. Objectives

The Venezuelan Land Use Planning Act of 1983 integrates a land use planning approach with the need to take into account the long-term economic and social development of the nation.³³⁵ It defines land use planning as the:

regulation and promotion of the siting of human settlements and of the economic and social activities of the population, and the development of the territory with a view to securing harmony between the greatest possible welfare of the people, optimum use of natural resources, and the protection and enhancement of the environment. . . .³³⁶

The different elements of land use planning include:

1. identification of the optimum uses of the territory;
2. determination of forward criteria and principles;
3. optimum distribution of wealth;
4. harmonious regional development;
5. integrated agricultural development and country planning;
6. the process of urbanization and urban deconcentration;
7. decentralization and siting of industry;
8. the layout of transport networks;
9. environment[al] protection and the conservation and rational use of natural resources;
10. administrative decentralization; and
11. the promotion of public and private activities cultivating citizen participation.³³⁷

335. *Id.* tit. I, § 1.

336. *Id.* § 2.

337. *Id.* § 3.

Public agencies are given the responsibility to develop, approve, manage, execute, and control land use plans.³³⁸ These agencies are responsible for the issuance and enforcement of regulations necessary to achieve these plans.³³⁹ The law calls for the creation of a National Land Use Plan.³⁴⁰ This plan is composed of the following sub-plans: (a) regional land use plans, (b) national plans for natural resource use and other sectoral plans, (c) town plans, (d) plans for areas placed under special administration, and (e) any other land use plans called for in the interest of the country's integrated development.³⁴¹ Overall authority over the National Land Use Plan (NLUP) is granted to the President of the Republic and the Council of Ministers.³⁴² Any plans made and amendments to them must be published in the national legal publication (*Gaceta Oficial de la República de Venezuela*).³⁴³ Implementation of these plans is "obligatory upon both public agencies and private persons."³⁴⁴

B. The National Land Use Plan and its Components

The NLUP and each of its sub-plans are discussed in separate chapters under Title II of the law. The NLUP sets up general guidelines to be addressed by the different sub-plans.³⁴⁵ The breadth of subjects contained in the NLUP³⁴⁶

338. Venezuelan Law, tit. I, § 4.

339. *Id.* § 4.

340. *Id.* § 5.

341. *Id.*

342. Venezuelan Law, tit. I, § 6.

343. *Id.* § 7.

344. *Id.*

345. *Id.* tit. II, chs. I-IV.

346. The guidelines involve the following issues:

1. primary and priority uses to be prescribed for extensive areas of the national territory, the littoral and marine areas coming within its zone of influence as determined in relation to its economic potential, peculiar conditions and ecological capacity;
2. the siting of the principal industrial, farming, mining and service activities;
3. the general lines of the urbanization process and town planning;
4. the identification of areas placed under special conservation rules, and under those for the protection and improvement of

demonstrates that it is to operate as a framework law with land use as an underlying theme. Of particular note is its emphasis on the designation of areas for "urbanization" and "conservation" and the identification and siting of public projects with regional impacts.³⁴⁷

1. Regional Land Use Plans

The first and major sub-plan of the NLUP gives the President authority to divide the country into regions whose "territorial extension may or may not coincide with the territorial jurisdiction of the respective federal authorities."³⁴⁸ Each region is then issued a regional land use plan that satisfies certain issues within the context of that region.³⁴⁹ Those issues are substantially the same as the general issues discussed for the NLUP above, but are promulgated with particular regions in mind.

Sectoral Land Use Plans are provided for only in a very general sense under this act. It is left to the regulations passed under this act to "make provision for such sectoral

the environment, and of the protection measures necessary for the respective purposes;

5. the identification of areas where it is necessary to prescribe restrictions arising out of the exigencies of security and defense and the harmonization of the uses of any area with the plans established for these purposes;
6. natural resource administration policy;
7. the identification and regime of exploitation of natural resources as geared to energy and mining production;
8. the identification and siting of major works projects for the provision of basic facilities having to do with energy, land, sea and air communications, the use of water resources, sanitation of large areas and similar works projects;
9. the general pattern of thoroughfares, including those suitable for transport purposes;
10. the harmonization of rural development uses and tourist uses; and
11. a policy of incentives conducive to the implementation of land use plans.

Venezuelan Law, tit. II, ch. II, § 9.

347. *Id.*

348. *Id.* ch. III, § 10.

349. *Id.* § 11.

plans and for the procedures to be followed in developing these.”³⁵⁰

2. Land Use Plans In Areas Under Special Administration

This act places a number of distinct geographical areas under special jurisdiction to be administered under “special management rules.”³⁵¹ All such areas are designated by the President of the Republic.³⁵² Automatically falling into this special area category are: (a) national parks, (b) resource protection zones, (c) forest reserves, (d) special areas for national security and defense, (e) wild fauna reserves, (f) wild fauna refuges, (g) wild fauna sanctuaries, (h) natural monuments, (i) tourist areas, and (j) areas placed subject to special administration under international treaties.³⁵³

Other areas may be placed under special management rules by law.³⁵⁴ These include:

(a) areas for integrated natural resource management consisting of tracts of country exhibiting certain characteristics, (b) rural integrated development areas, (c) environmental protection and reclamation areas, (d) historic, cultural, or archeological sites, (e) national water reserves, (f) areas for the protection of public works, (g) critical areas for priority treatment, (h) protected woodland, (i) biosphere reserves, and (j) frontier areas as governed by the overall strategy contemplated in the National Security and Defense Plan and in keeping with the characteristics peculiar to the respective sectors of the frontier.³⁵⁵

3. Town Plans

The Venezuelan act contains provisions affecting the municipal level. Town plans cover similar issues to those cov-

350. Venezuelan Law, tit. II, ch. IV, § 14.

351. *Id.* ch. V, § 16.

352. *Id.* § 17.

353. *Id.* § 15.

354. Venezuelan law, tit. II, ch. V, § 16.

355. *Id.*

ered by most municipal zoning ordinances in the United States.³⁵⁶ Thus, as a framework for natural resource and environmental protection, the act's ultimate effect is achieved through grass roots municipal land use planning, within a larger context. This is similar to the approach taken in the United States, except that town-level regulations under this act must reflect the aims of the national plan.³⁵⁷ This comprehensive approach allows Venezuela to achieve environmental protection as its towns develop in a rational manner, each following a general standard while tailoring its own plan to its specific situation.³⁵⁸

C. Development and Approval of Land Use Plans

The Venezuelan act authorizes the formation of a new institutional structure to formulate and implement the NLUP. Title III, Chapter I of the act creates the National Land Use Planning Committee.³⁵⁹ This committee is headed by the Chief of the Central Coordination and Planning Office.³⁶⁰ Its membership consists of representatives of the Ministries of the Environment and Renewable Natural Resources, Internal Affairs, Defense, Development, Agriculture, Energy and Mines, Transport and Communications, Urban Development, and representatives of the Permanent Secretariat of the National Security and Defense Council.³⁶¹ Each region is similarly served by a Regional Land Use Planning Committee "under the presidency of the agency responsible for regional planning tasks."³⁶²

It is the duty of these national and regional committees to develop their proposed plans for approval by the appropriate body.³⁶³ Once approval has taken place, responsibility for monitoring the implementation of the NLUP is given to the

356. *Id.* ch. VI, § 19.

357. *Id.* § 18.

358. Venezuelan Law, tit. II, ch. VI, § 19.

359. *Id.* tit. III, ch. I, § 20.

360. *Id.*

361. *Id.* § 20.

362. Venezuelan Law, tit. III, ch. I, § 21.

363. *Id.* §§ 22, 23.

Ministry of the Environment and Renewable Natural Resources, and to the "governors of respective states acting in their capacity as agents of the National Executive as provided under such powers as it may delegate to them."³⁶⁴

1. Monitoring of Implementation

Monitoring the implementation of regional land use plans is the responsibility of the governors of the states. These governors must act "with the advice of the Regional Land Use Planning Committee."³⁶⁵ Monitoring with respect to areas under special administration is carried out by the appropriately charged agency.³⁶⁶ For example, monitoring of plans made for farming areas is carried out by the Ministry of Agriculture.³⁶⁷

Monitoring town plan implementation is left to the municipalities themselves as well as "other local units."³⁶⁸ Monitoring the implementation of "other plans contemplated in this Act shall be the responsibility of the agencies of the Central, state, or municipal administrative authorities as the applicable laws require *ratione materiae*."³⁶⁹

2. Administrative Approvals

Administrative review by the Ministry of Environment and Renewable Natural Resources is required for any decisions "taken by the agencies of the National Public Administration . . . with national [land use] implications."³⁷⁰ Decisions taken by those same agencies or by regional development corporations which have regional-level implications, must be approved by governors of the "units concerned."³⁷¹ Finally, decisions taken by such agencies or by "regional authorities or those of states, affecting land areas or the occupa-

364. *Id.* tit. IV, ch. II, § 43.

365. *Id.* § 44.

366. Venezuelan Law, tit. IV, ch. II, § 46.

367. *Id.* § 46(e).

368. *Id.* § 47.

369. *Id.* § 48. *Ratione materiae* translates as: by reason of the matter involved; in consequence of, from the nature, or the subject matter.

370. Venezuelan Law, tit. IV, ch. III, § 49.

371. *Id.* § 50.

tion of these within urban areas," require approval by the appropriate municipal authorities.³⁷²

Administrative review akin to a permitting scheme is required by this act.³⁷³ Activities undertaken by "individuals or private bodies entailing occupation of land areas" must receive prior authorization from the appropriate national, state, or local authority.³⁷⁴ These individuals or private entities are required to give evidence of proper authorization before any public agency grants them credit or any other benefit or incentive.³⁷⁵

3. Forced Review and Permitting

The Ministry of the Environment and Renewable Natural Resources, state governors, and municipal authorities are compelled to give a decision on the plan being reviewed within sixty days.³⁷⁶ If no decision is given by that time, approval is deemed granted.³⁷⁷ This sixty day requirement also applies to the permitting of activities proposed by individuals or private bodies.³⁷⁸ If no answer is given to their request for permission, it is "deemed to have been granted; and the authority concerned shall be under an obligation of issuing an official record to that effect."³⁷⁹ Thus, a premium is placed on administrative efficiency under this law, as it is under the Chilean Framework Law.

D. Effect of NLUP on Private Property

Under this law, private property owners will be burdened by limitations imposed on the use of their land. This, in itself, does not "give rise to entitlement to compensation."³⁸⁰ Owners may ask for compensation, however, if the

372. *Id.* § 51.

373. *Id.* ch. IV, §§ 53, 55.

374. Venezuelan Law, tit. IV, chs. IV, §§ 53, 55.

375. *Id.* § 57.

376. *Id.* §§ 54, 55.

377. *Id.*

378. Venezuelan Law, tit. IV, ch. IV, §§ 54, 55.

379. *Id.*

380. *Id.* tit. V, ch. I, § 63.

limitations placed on their land cause a "demonstrable, effective, identifiable, actual and economically quantifiable grievance."³⁸¹ In these cases, the Act on Expropriation for Public or Social Utility is applied in determining compensation.³⁸²

If implementation of a land use plan causes extinction of any ownership right, "the appropriate authorities must order expropriation in keeping with that Act."³⁸³ This expropriation must take place within a prescribed time limit, after which failure to carry out expropriation will give the landowner compensation for the limitations imposed on his use of the property.³⁸⁴ A ruling is then made as to the uses of that land "compatible with the purposes of the plan in question."³⁸⁵

Land use planning at the town level, which results in an increase of property value, leads to the assessment of a "special levy."³⁸⁶ This levy is allowed to be a maximum of five percent of the "enhanced value of the property."³⁸⁷ Proceeds of this valuation tax are used for public works and urban services as prescribed by ordinance.³⁸⁸

Under the same section, any owner undertaking urban development projects is mandated to give the municipality (at no charge) any land "needed for thoroughfares, parks, and municipal services," and to pay for the work required to prepare them.³⁸⁹

E. Enforcement

Venezuelan law holds administrative agencies accountable to their objectives.³⁹⁰ Any administrative action "done in conflict with land use plans or with the administrative approvals issued pursuant to this Act shall be deemed to be null

381. *Id.*

382. Venezuelan Law, tit. V, ch. I, § 63.

383. *Id.* § 64.

384. *Id.*

385. *Id.*

386. Venezuelan Law, tit. V, ch. II, § 68.

387. *Id.*

388. *Id.*

389. *Id.*

390. Venezuelan Law, tit. VI, § 70.

and void and shall not give rise to entitlements in favor of those for whom such acts and approvals were intended.”³⁹¹ Furthermore, the public officials responsible for the acts in question incur “disciplinary liability” of a civil or criminal nature, depending on the injury caused.³⁹² Such persons also incur “administrative liability” and are subject to punishment by fine.³⁹³

Private persons are also held accountable if they act in “conflict with this Act or land use plans or administrative authorizations granted pursuant to this Act.”³⁹⁴ Such persons may be fined up to 500,000 Bolivares, depending on “the seriousness of their offense, the nature of the activity, and the magnitude of damage caused to the land area and the environment.”³⁹⁵ In addition, such persons can be further penalized by the following: disqualification for two years for the grant of any authorizations contemplated in this Act, seizure of any implements or machinery used in committing the offense, demolition at the cost of the offender of any works and building construction installed, and the obligation to make good the damage caused.³⁹⁶

The law requires³⁹⁷ that grants of credit, benefits, or incentives cannot be made without receiving evidence of proper authorization under the Act; violations of this requirement are also subject to punishment,³⁹⁸ including fines of up to 100,000 Bolivares.³⁹⁹ Furthermore, “where the granting of security or loans is concerned, the penalty shall consist of a fine in an amount calculated at between [twenty] and [sixty] percent of the security or the loan so granted.”⁴⁰⁰ All fines are “imposed by whatever authority is responsible for moni-

391. *Id.*

392. *Id.*

393. *Id.*

394. Venezuelan Law, tit. VI, § 71.

395. *Id.*

396. *Id.* § 72.

397. *Id.* tit. IV, ch. IV, § 57.

398. Venezuelan Law, tit. VI, § 71.

399. *Id.* § 73.

400. *Id.*

toring and implementation of plans, and the proceeds from this source shall be credited to that authority's holdings."⁴⁰¹

VI. A Comparison of the Four Different Latin American Framework Laws

In the past five decades, Latin American countries have sought to achieve the promise of economic development without great regard for the environmental consequences. Many businesses have established operations on Latin American soil to avoid "what they perceive to be an unnecessarily burdensome and costly set of environmental regulations in the United States."⁴⁰² Latin America's movement towards a democratic, free-trade system and increased trade with developed countries has bolstered such business interests.⁴⁰³

As the framework laws demonstrate, however, businesses must keep track of the changing nature of environmental regulation in the south.⁴⁰⁴ Along with trends favoring a democratic, free-trade regime, there is an increasing awareness of the need to protect the environment.⁴⁰⁵ This awareness is overdue in an area that the World Bank "characterizes as the 'most urbanized and industrialized' part of the world."⁴⁰⁶ According to the World Bank, Latin America has the "urban pollution problems common to many [western European] countries, as well as the resource management problems found in much of Africa and Asia."⁴⁰⁷ It is estimated that "more than 50 million people are now exposed to hazardous levels of air pollution in the region's urban areas."⁴⁰⁸

401. *Id.* § 74.

402. Lawrence J. Jensen, *Environmental Regulation in Latin America: A Rapidly Changing Legal Framework*, 8 NAT. RESOURCES & ENV'T., Fall 1993, at 23.

403. *Id.*

404. *Id.*

405. *Id.*

406. Jensen, *supra* note 402, at 23 (quoting World Bank, *Environment and Development in Latin America and the Caribbean* (1992)).

407. *Id.* (quoting World Bank, *Environment and Development in Latin America and the Caribbean* (1992)).

408. *Id.* at 24.

A change of environmental consciousness was the necessary first step before taking action to protect the environment. Where this change of consciousness has occurred, Latin American countries are faced with how to translate it into laws and regulations that insure a healthier environment. The Inter-American Development Bank has concluded that the legislation of Latin American countries does not define environmental policy, nor does it create a legal means by which to enforce it.⁴⁰⁹ The solution chosen by a few, but growing number of, Latin American countries is the adoption of all-encompassing framework laws which provide an efficient means of achieving environmental protection goals.⁴¹⁰

The four framework laws described in this article represent the character of the changed consciousness of each country's lawmakers and citizens. Each law approaches the formation of its environmental protection framework with different levels of specificity and sophistication. These laws come from four countries which have, on one hand, a similar set of historical, cultural and religious perspectives, and on the other, a very distinct set of socio-economic problems they face as they approach the end of the twentieth century.⁴¹¹ All four countries have, to some extent, sought economic progress at the expense of the environment.

While differences exist in the overall strategies for sustainable development of these four countries, several common elements are identifiable in all their framework laws. To gain a perspective on how these South American nations view the utilization of a framework approach to environmental protection, it is important to look at both their common and distinct elements.

409. *Id.* at 24.

410. Jensen, *supra* note 402, at 24.

411. *Id.*

VII. The Common Components of these Laws and Differences in Approach to Each Component

A. Setting of Objectives

All four of the laws begin by stating their objectives. In each case the language used in this section forecasts what can be expected from the law. Brazil's law, for example, is the simplest of the four laws: Its basic objective is to protect, enhance, and reclaim the environment while ensuring sustainable socio-economic development.⁴¹² Chilean law, on the other hand, is much more detailed, aiming to ensure the right to "live in an environment free of pollution,"⁴¹³ the right "to environmental protection [and] preservation of nature,"⁴¹⁴ as well as the right to the "conservation of the environmental heritage."⁴¹⁵

B. Implementation Roles Given to Federal, State, and Local Agencies

All four environmental laws wisely provide for their implementation at the federal, state, and local governmental levels. They each achieve this, in general, by forming national and in some cases regional governmental agencies that integrate the role of all three levels in implementing the laws.⁴¹⁶

C. Environmental Impact Assessment

The environmental framework laws of Brazil, Mexico and Chile establish procedures for conducting Environmental Impact Assessments.⁴¹⁷ The least detailed provision is found in the Brazilian law, which is stated in a single sentence which creates environmental assessment as a discretionary

412. Brazil Law No. 6938, art. 2.

413. Chilean Law 19.300, tit. I, art. I.

414. *Id.*

415. *Id.*

416. See *supra* section II, part III; section III, part III; section IV, part II; section V, part II.

417. Brazil Law No. 6938, art. 8(II); Chilean Law 19.300, tit. II, para. 2; Mexican Law, tit. I, ch. IV, arts. 28-35.

tool.⁴¹⁸ Mexico has integrated this process into its permitting scheme.⁴¹⁹ Chile's law goes into the greatest detail on this process. Under Chile's law, an entire environmental impact assessment system is created.⁴²⁰

D. Permitting

1. Regular

Brazil and Mexico incorporate permitting schemes into their laws to control harmful emissions and lessen environmental impacts of projects instituted by the public or private sector.⁴²¹

2. Forced

Chile and Venezuela assure administrative efficiency by modifying the common permitting scheme to allow for automatic permit issuance if a decision is not promptly reached after an application is submitted for review.⁴²² Strict compliance with time limits is thus absolutely necessary for proper protection of the environment under these laws.

E. Community Participation

Although community participation in implementation is provided for by all of these laws, some go further than others in giving the public the additional power necessary to make a real difference. Chile includes a citizen's suit provision in its law.⁴²³ Mexico's law has no direct citizen suit provision, but grants the public only the power to make public denouncements of environmentally harmful activities.⁴²⁴ The language of Mexico's provisions makes it optional for governmental agencies to enter into agreements of coopera-

418. *Id.*

419. Mexican Law, tit. I, ch. V, arts. 28-35.

420. Chilean Law, 19.300, tit. II, paras. 2-3.

421. Brazil Law No. 6938, art. 10; Mexican Law, tit. IV.

422. Chilean Law 19.300, tit. II, para. 2, arts. 15, 17; Venezuelan Law, tit. IV, ch. IV, §§ 54, 55.

423. Chilean Law 19.300, tit. III, para. 1, arts. 53-54.

424. Mexican Law, tit. VI, ch. VII.

tion with civic groups and individuals.⁴²⁵ Brazil includes the public by designing the membership of its top regulatory agency to include NGO representatives; however, the Brazilian law has no citizen suit provision.⁴²⁶

Chile, Mexico and Venezuela use mandatory publication of governmental agency proposals and actions to increase public awareness about matters of environmental consequence.⁴²⁷ Publishing under the Mexican and Chilean law must take place in regular publications of those regions potentially affected.⁴²⁸ All three laws require publication in the "Official Gazette" of the respective country.⁴²⁹

F. Pollution Prevention and Reduction

Mexico, Chile, and Brazil all provide for the setting of technical standards to prevent and reduce pollution.⁴³⁰ Chile is surpassed only by Mexico in its effort to provide for a detailed system of pollution prevention and reduction.⁴³¹ Mexico's planning in this area is expansive, creating specific strategies for dealing with air, water and land pollution.⁴³²

G. Protected Area Management

All four laws provide for the maintenance of areas protected by national resolution or international agreement.⁴³³ While most justify the safeguarding of these regions solely for environmental reasons, Venezuela adds the justification of reserving these regions for national defense reasons.⁴³⁴

425. *Id.*

426. Brazil Law No. 6938, art. 6(III).

427. Chilean Law 19.300, tit. II, para. 3, arts. 27, 31.

428. See Chilean Law 19.300, tit. II, para. 2, art. 27. See, e.g., Mexican Law, tit. II, ch. 1, art. 61.

429. See Chilean Law 19.300, tit. II, para. 2, art. 27; Venezuelan Law, tit. V, ch. 1, § 68. See, e.g., Mexican Law, tit. I, ch. V art. 43.

430. See Mexican Law, tit. I, ch. V, arts. 36-37, tit. IV; Brazil Law No. 6938, arts. 8, 9(I), 17; Chilean Law 19.300, tit. II, para. 4.

431. See Mexican Law, tit. I, ch. V, arts. 36-37, tit. IV; Chilean Law 19.300, tit. II, para. 4.

432. See Mexican Law, tit. IV.

433. Brazil Law No. 6938, art. 18; Chilean Law 19.300, tit. II, para. 4; Mexican Law, tit. I, ch. V, art. 38, tit. II; Venezuelan Law, tit. II, ch. IV.

434. Venezuelan Law, tit. II, ch. IV, art. 16(10).

H. Land Use Planning

This subject is touched upon by all the laws. Brazil's law to some extent, and Mexico's law to a greater extent, focus on the need to utilize land use planning to ensure the achievement of their goals.⁴³⁵ The Venezuelan law is, of course, the most expansive in its treatment of this area. Venezuela provides a methodology by which to implement land use plans, while at the same time providing for numerous other environmental concerns through such planning.⁴³⁶ Thus, although the Venezuelan law is a framework for land use planning, it still provides for several of the basic features found in the other three laws.⁴³⁷

I. Resource Management

All but the Venezuelan law provide for the rational use of renewable and non-renewable resources.⁴³⁸ Chile and Mexico give specific attention to this subject, and both specifically include endangered species protection.⁴³⁹

J. Education and Research

The laws of Brazil, Chile and Mexico all address the need for greater environmental education and research. Chile and Mexico include specific provisions;⁴⁴⁰ each has developed original methods of using their current and developing information base to help.⁴⁴¹ Brazil includes a provision in its law requiring the formation of a database of companies and indi-

435. Brazil Law No. 6938, art. 9; Mexican law, tit. I ch. V, arts. 19-27.

436. See Venezuelan Law, tit. I, § 3(9), tit. II, ch. II, § 9.

437. See, e.g., Venezuelan Law, tit. II, ch. IV (providing for the protection of certain areas).

438. Brazil Law No. 6938, art. 13; Chilean Law 19.300, tit. II, para. 6, arts. 41-2; Mexican Law, tit. III.

439. Chilean Law 19.300, tit. II, para. 6, art 42; Mexican Law, tit. III, ch. I, art. 89(X) & ch. II.

440. Chilean Law 19.300, tit. II, para. 1, art. 6, Mexican Law, tit. I, ch. V, arts. 39-41.

441. Chilean Law 19.300, tit. II, para. 1, art. 8; Mexican Law, tit. 1, ch. V, arts. 42-3.

viduals who have expertise in the area of environmental protection.⁴⁴²

K. Enforcement and Liability

Fortunately, all four countries provide for criminal and civil enforcement of their laws.⁴⁴³ Brazil and Chile emphasize this topic to a greater extent than their counterparts. This enforcement is triggered by different standards of liability in each country. Brazil⁴⁴⁴ and Mexico⁴⁴⁵ have a strict liability standard for environmental wrongs, while Chile's⁴⁴⁶ standard requires proof of intent to pollute. Enforcement under the Venezuelan law even reaches administrators of the law itself, holding them accountable for Acts promulgated "in conflict with land use plans."⁴⁴⁷

VIII. Components Emphasized only by the Chilean Law

A. Environmental Impact Assessment System

Only Chile's framework law contains an organized system of evaluation for projects and activities which could have an adverse effect on the environment.⁴⁴⁸ Such a plan is akin to a procedural law within a general law; it sets forth standard procedures that are simple enough to be implemented with some consistency by federal and regional authorities.

This system has built-in flexibility which allows parties to submit Environmental Impact Studies or Declarations, depending on the proposed project or activity.⁴⁴⁹ This procedure then incorporates methods for agencies to rule on those

442. Brazil Law No. 6938, art. 17.

443. Mexican Law, tit. VI; Chilean Law 19.300, tit. III; Brazil Law No. 6938 arts. 14-6; Venezuelan Law, tit. VI.

444. Brazil Law No. 6938, art. 14(IV)(1).

445. Mexican Law, tit. VI, chs. IV, VI, VII.

446. Chilean Law 19.300, tit. III, para. 1, art. 51.

447. Venezuelan Law, tit. VI, § 70.

448. Chilean Law 19.300, tit. II, para. 2.

449. Chilean Law 19.300, tit. II, para. 2, arts. 8, 11, 18.

submissions,⁴⁵⁰ as well as the methods for parties to challenge those rulings.⁴⁵¹

B. Environmental Protection Fund

This tool would seem to be a prerequisite of all four laws, but is found only in the Chilean law.⁴⁵² This fund is one of the key ways that Chile can profit from the growing environmental consciousness and then use the money in an organized, focused manner.

C. Procedure for Contesting Rulings and Standards

Although it may at first seem superfluous for a framework to include such a provision, it can be one of the vital parts of the law. This provision, if included in the other laws, can prove invaluable in making the goals of the law a reality. This provision enables a party to comply with the requirements of the law with the knowledge that a mechanism exists to prevent unfair action by a government agency.⁴⁵³

D. Inter-agency Cooperation

While other countries alluded to this subject within other sections of their laws,⁴⁵⁴ Chile's law incorporates a separate section which deals specifically with this subject.⁴⁵⁵ Inter-governmental agency cooperation is vital for the implementation of such an all-encompassing law. Having this provision makes it easier for agencies to achieve cooperation in an organized and efficient manner.

VIII. Conclusion

While each of these laws establishes a framework for managing natural resources and protecting the environment,

450. *Id.* arts. 15-19.

451. *Id.* art. 20.

452. *Id.* tit. V.

453. Chilean Law 19,300, tit. II, para. 2, art. 20.

454. *See, e.g.*, Brazil Law No. 6938, art. 2; Mexican Law, tit. I, ch. II; Venezuelan Law, tit. I, § 3.

455. Chilean Law 19,300, tit. II, para. 2, arts. 23-4.

each takes a distinct approach. Venezuela's law approaches that goal through land use planning. Brazil's is very general. Chile's law emphasizes the role of the national government and includes great detail regarding the implementation of its environmental assessment process. Mexico's law, like Chile's, involves greater state and local autonomy and participation.

In the aggregate, these four laws demonstrate that there is no single method of designing legal frameworks to promote sustainable development in the Americas. Each country will inevitably create a law that respects its own history, culture, and political character. These laws, which have been analyzed here only as adopted, not as implemented, provide a menu to consider as this process unfolds in Latin America.