

**ENVIRONMENTAL LAW
AND ENFORCEMENT
IN THE ASIA-PACIFIC RIM**

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CHAPTER 14

TAIWAN

—Dennis T. C. Tang—

INTRODUCTION

Taiwan, officially referred to as the Republic of China (ROC), is a mainly mountainous island with a total area of nearly 36,000 km², located off the eastern coast of China, almost equidistant from Shanghai and Hong Kong. The Taiwan Strait separating Taiwan from the Chinese Mainland is about 220 km at its widest point and 130 km at its narrowest. Due to the variety of climatic zones and diverse topography, Taiwan is endowed with a broad selection of animal and plant species.¹

14.005

Following 50 years of Japanese colonisation, an influx of some two million soldiers and civilians from the Chinese Mainland as a result of the civil war turned the island into a frontline of the cold war in 1949. Over the past five decades, intensive economic development has made the island one of the world's largest economies.² However, the unprecedented scale of transformation through rapid industrialisation, urbanisation and modernisation has taken a heavy toll on the living environment. Increased prosperity and greater democratic participation have also brought about demands for a better quality of life. Notably, the demands on Taiwan's environment stem from its uneven and dense distribution of a relatively large population (more than 22 million) over approximately 30 per cent of the island's plain areas that have an elevation of less than 100 m.³

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1. Some 70 species of mammals, more than 500 species of birds (40% of which are resident), 100 species of reptiles, 34 amphibian species, nearly 2,500 species of fish, and 18,000 identified species of insects (including more than 400 species of butterflies) are known to exist in the Taiwan area: *The Republic of China Yearbook: Taiwan 2001*, (May 2001). Government Information Office website: <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-9.htm#12> (visited 4 August 2001).
 2. As of June 2001, Taiwan's GDP reached US\$308.5 billion with a per capita GNP of US\$14,082. National Statistics website: <http://www.stat.gov.tw/bs4/nis/EP1.xls> (visited 4 August 2001).
 3. According to statistics released by the Ministry of the Interior, the population density of Taiwan as of May 2001 stood at 616.73 persons per km², making it the second highest in the world after Bangladesh, reaching 22.328 million persons. Ministry of the Interior website: <http://www.moi.gov.tw/W3/stat/english/eindex.htm> (visited 4 August 2001).

OVERVIEW OF THE LEGAL SYSTEM

Government Structure

14.010 The ROC Constitution was enacted in 1946⁴ and amended throughout the 1990s by a series of additional articles.⁵ The constitution embraces both the horizontal and vertical aspects of the doctrine of separation of powers.

At the central government level there is a horizontal separation of powers among five (instead of three) branches, namely: the executive yuan (EY); legislative yuan (LY); judicial yuan (JY); examination yuan; and control yuan (CY). The EY is commonly viewed as the counterpart of the Cabinet, while the LY, being "the highest legislative organ of the state exercising legislative power on behalf of the people",⁶ is currently made up of 225 members⁷ directly elected by the people. Members of the LY serve a term of three years and are eligible for re-election.⁸ The JY, composed mainly of 15 to 17 grand justices, serves to "interpret" the constitution (constitutional review) and to "unify any conflicting interpretations" over statutes or administrative regulations made by coordinate branches or agencies.⁹ A more detailed description of the judicial system is provided in paragraph 14.030. The examination yuan is actually an independent (from the EY) and specialised administration for civil servants.¹⁰ Finally, the CY possesses the power of impeachment, censure and auditing, all of which can be otherwise entrusted to the Congress or Parliament.¹¹ In addition, the CY may pass resolutions for correcting a particular measure or a general policy adopted by an agency under the EY. Such a complicated constitutional structure of checks and balances is, obviously, hard to operate without the leadership of a stable ruling party. These comments hold true for environmental policy making and implementation as well.

Prior to the 1997 Amendments, it was generally agreed that the government structure created by the constitution was a "modified parliamentary system".¹² In sum, the

4. The constitution contains 14 chapters and a total of 175 articles and was intended to apply to the whole of China. However, since the end of 1949, the constitution has applied only to the Taiwan area as a result of Chiang Kai-Shek's defeat in the civil war soon after the passage of the constitution.
5. See Dennis Tang, *Constitutional Reforms in Taiwan in the 1990s*, Paper presented at the 5th World Congress, International Association of Constitutional Law, 12-17 July 1999, Rotterdam, Netherlands, for details of the evolution and comments. Reprints available upon request.
6. Art. 62, ROC Constitution (ROC Const.).
7. Art. 4, § 1, Additional Articles of 2000.
8. Art. 65, ROC Const.
9. Art. 78, ROC Const.
10. The "highest examination organ of the state" is responsible for "matters relating to examination, appointment, official grading, service rating, salary scales, promotion and transfer, security of tenure, commendation, pensions for family members of deceased public employees, retirement, and old-age pensions (of public employees)." Art. 83, ROC Const.
11. Art. 90, ROC Const.
12. See Dennis Tang, "On the Constitutionality of the Legislative Veto in Section 95 of the Statute Governing the Civil Relationships between the People of the ROC and the PRC: What Does a 'Modified Parliamentary System' Mean?," *Separation of Powers Revisited* 451, 2nd edn (2000).

premier is nominated and, upon consent by the LY, appointed by the President of the Republic.¹³ Yet, no officials of the EY can simultaneously hold a membership in the LY. The premier does not have the power to dissolve the LY, nor can the LY remove the Cabinet with a vote of no-confidence.¹⁴ The Additional Articles of 1994 provided that the President of the Republic should be directly elected by popular vote. Subsequent Additional Articles of 1997 further empower the president to appoint the premier without having to seek the consent of the LY.¹⁵ The modified parliamentarism has thereby been subtly transformed into a weak presidentialism.¹⁶ It is weak because the president cannot, as the President of the United States can, effectively veto a bill passed by the LY.¹⁷

At the local government level, which includes province / municipality, county / city and town / village, only a horizontal separation of powers exists between the executive and legislative branches.

14.015

Hierarchically, the constitution recognises two levels of local government: province / municipality and county / city. In practice, the town / village has become the third and lowest level of self-governance in Taiwan since 1950. However, as of December 1998, the "province" level of local government ended with the abolishment of the provincial election of the Taiwan province governor. As a result, there are now only two levels of local government: the municipality / county / city and town / village.

The constitution also attempts to separate legislative powers amongst the different levels of government by classifying subject matter into four categories. Category I refers to subject

13. There is no explicit provision in the ROC Const. governing the dismissal of the premier. In practice, the premier and their Cabinet members usually resign whenever the President of the Republic is re-elected. Interpretation No. 419 held that these resignations are only a courtesy. Interpretation No. 387 (10 / 13 / 1995) held, however, that the premier together with all Cabinet members should resign before the first meeting of every re-elected LY so that the EY is accountable to the LY. The author doubts if Interpretation No. 387 is still applicable in the wake of the 1997 Amendments.
14. Art. 57, para. 2, provides: "If the Legislative Yuan does not concur with any particular major policy of the Executive Yuan, it may by resolution request the Executive Yuan to alter such a policy. With respect to such a resolution, the Executive Yuan may, with the approval of the President of the Republic, ask the Legislative Yuan for reconsideration. If, after reconsideration, two-thirds of the Members of the Legislative Yuan present at the meeting uphold the original resolution, the Premier shall either abide by the same or resign."
15. Taking this with the equivocal removal power inherited from the Additional Articles of 1994, the president has firmly obtained absolute control over the premier.
16. The 1997 Amendments further break the "modified parliamentarism" on two fronts. On the one hand, it mandates a premier who was defeated in a reconsideration vote to *accept* the original resolution of the LY, instead of *resigning*. This can only be understood from the viewpoint of a presidential system, that is, the premier is being responsible only to the president, as the premier was appointed, and may only be removed, by the president. On the other hand, it allows the LY to remove the Cabinet by a simple majority vote of non-confidence, yet the defeated premier may request the president dissolve the LY (Art. 3, s. 2, cl. 3, Additional Articles of 1997). There is no mechanism guaranteeing that the president will appoint a new premier from the majority party so that they would be able to be "responsible" to the LY. One cannot help but doubt what will persuade the legislators to risk their seats by initiating a vote of no confidence. It would be easier to just block or boycott the important bills or budget proposed by the premier. The vote of no confidence therefore normally does not constitute a real threat to the premier.
17. In the US, a presidential veto can be overridden only by a special majority of two-thirds of the members in both the Senate and House of Representatives. However, a presidential veto in Taiwan can be overturned by a simple majority of the LY. See US Const. Art. 1, s. 7; Art. 3, s. 1, Additional Articles of 1997.

matter that must be legislated and executed by the central government only,¹⁸ and Category II to those that must be legislated by the central government and yet may be delegated to a provincial or county government for execution.¹⁹ Category III governs those powers that must be legislated by the provincial government and yet may be delegated to the county government for execution.²⁰ Finally, the subject matter in Category IV are those powers that must be legislated and executed by the county government only.²¹ Any subject matter not enumerated in any of these four categories will fall within the jurisdiction of the central government if it is national in nature, the province if it is provincial in nature, or the county if it is local in nature. In the event of a dispute, the matter should be settled by the LY, rather than through the judicial review process of the JY.²² Environmental protection is not enumerated in any of the four categories described above. In practice, environmental protection is a shared responsibility amongst all levels of government in a flexible yet ambiguous way.²³

Sources of Law

14.020 Taiwan is a member of the civil (continental) law family. The statutes, also known as laws or Acts, enacted by the LY through a three-reading process and promulgated by the President of the Republic, are the primary sources of law. The constitution clearly stipulates that a statute that contravenes the constitution shall be null and void. Similarly, any administrative rule or regulation that contravenes the constitution or a statute shall be null and void.²⁴

To secure such a hierarchy of positive legal norms, the constitution endows all legislative powers in the LY, with the exception of national emergencies when the president may issue emergency orders²⁵ that will carry the legal effect of law. According to the Principle of Reservation for Statutes (*Prinzip des Vorbehalt des Gesetzes*), all matters concerning the rights

18. Such as foreign affairs, national defence, the judiciary, demarcation of national, provincial, and county taxes, foreign trade policy, etc. See Art. 107, ROC Const.

19. Such as the General Principles of Provincial and County Self-Governance, the educational system, eminent domain, the police system, public health, etc. *Ibid.*, Art. 108.

20. Such as provincial education, public health, industry, communications, etc. *Ibid.*, Art. 109.

21. Such as county education, public health, industry and communications, etc. *Ibid.*, Art. 110.

These provisions were criticised as being blindly modelled after the federal system (especially that of Germany) and ignoring the Chinese political tradition of being a unitary country since the Chin Dynasty (BC 246–BC 207). See G. Lin, *An Analytical Study on the Constitution of the Republic of China* (Taipei: 1979), pp. 310–314.

22. *Ibid.*, Art. 111.

23. See, e.g. s. 3, APCA (1999): "The term 'Responsible Agency' as used in this Act refers to the Environmental Protection Administration of the Executive Yuan at the central government level, the bureau of environmental protection of the Municipal Government at the municipal government level, and the County / City Government at the county / city government level."

24. Arts. 171 and 172, ROC Const.

25. Art. 2, s. 3, Additional Articles of 2000: "The President may, by resolution of the Executive Yuan Council, issue emergency decrees and take all necessary measures to avert imminent danger affecting the security of the State or of the people or to cope with any serious financial or economic crisis, the restrictions in Art. 43 of the Constitution notwithstanding. However, such decrees shall, within ten days of issuance, be presented to the Legislative Yuan for ratification. Should the Legislative Yuan withhold ratification, the said emergency decrees shall forthwith cease to be valid."

and obligations of the people shall be prescribed by law only.²⁶ In practice, the grand justices have taken a more flexible approach by recognising the principle to include various “densities”.²⁷ In short, any restrictions to one’s personal freedom, *e.g.* arrest or detention, may only be prescribed by law.²⁸ Restrictions on other freedoms may be prescribed either by law or by administrative rules via legislative delegation. Such a legislative delegation must be concrete and intelligible in its purpose, outreach and contents.²⁹ Provision of various social welfare or benefits may be conducted without statutory authorisation.

Fundamental statutes, such as the Civil Code and Criminal Code, were codified in the late 1920s and early 1930s and were greatly influenced by German and Japanese codes. The Codes of Civil and Criminal Procedures that govern civil and criminal litigation processes serve as a “backbone” to procedural laws. However, until very recently, no administrative code of a similar comprehensive applicability existed. The Administrative Procedure Act (APA) of 1999, which came into force on 1 January 2001, established not only minimum procedural requirements for the seven enumerated administrative decision makings, but also general substantive rules for all administrative decisions.³⁰ Most environmental laws fall within the field of administrative law.

Within the Civil Code, the provisions on torts and on the relationships between adjacent lands are most relevant for the purpose of environmental protection. In principle, a tortfeasor is only responsible for their intentional and negligent acts.³¹ The newly revised Article 191-3 of the Civil Code makes a person who runs a business or undertakes some activity that has a danger of imposing harm to others because of its nature, or the tools or production method employed in the business or activity, responsible for any resultant damages caused. Penalties will be imposed, unless the accused can substantiate that they have paid due attention to prevent such damages. Notably, this new provision might lend support to some claims for environmental damages even where a polluter is in compliance with the relevant emission / effluent standards.³²

26. See s. 5, the Act for Standardising Laws and Regulations at the Central Government (1970).

27. See Interpretations No. 392, 394 and 443.

28. See Art. 8 of the ROC Const., Interpretations No. 284 and 392.

29. This is a copy of the so-called “*Bestimmtheitsgebot*” in Germany. See, *e.g.* Interpretation No. 313.

30. The APA is therefore the codification of the general provisions, both substantive and procedural, of administrative law. See generally Dennis Tang, *Treatise on the Administrative Procedure Act of Taiwan* (Taipei: Angle, 2000).

31. See s. 1, Art. 184 of the Civil Code (1929, as amended 1999) describes the archetype of a tort: “The person who, due to intention or negligence, unlawfully infringes on another person’s right(s), shall be responsible for compensation for damages.” Yet, s. 2 of the article prescribes that a person who violates a statute that provides protection to other person(s) shall be responsible for resultant damages compensation, unless they prove no negligence at all.

32. This new provision might help explain and elaborate some long-existing provisions of environmental laws. See, *e.g.* s. 61, Water Pollution Control Act:

“Victims of water pollution may request the Responsible Agency at local government level to determine the cause of the water pollution damage. The local Responsible Agency shall, in conjunction with other relevant agencies, conduct investigations, order those discharging pollutants to make immediate improvements and request that *appropriate compensation be awarded* to the water pollution victims.” [Emphasis added]

So far, few compensation claims have been pursued through civil actions, see, *e.g.* Supreme Court Decision 2197 (8 / 26 / 1994) (A total of NT\$1.5 million of compensation awarded for fruit farming failure resulted from air pollution).

14.025 Article 793 of the Civil Code stipulates that a land owner may prohibit gas, steam, smell, smoke, heat, dust, noise, vibration and similar invasions (trespasses) coming from adjacent lands. But if the invasions are minor, or regarded as appropriate according to the land or local customs, the landlord must tolerate them.³³

Unlike the German Criminal Code,³⁴ there is no dedicated chapter on environmental crimes in the Taiwan Criminal Code. Pertinent provisions in Chapter 11 (Crimes for Causing Public Dangers) of the code include: poisoning of the public drinking water supply; polluting the air, soil and water; and illegal possession, manufacture, sale or transportation of nuclear or radioactive materials. These provisions are customarily regarded as general laws while the provisions of criminal sanctions contained within various environmental statutes are special laws. Note that the latter prevails when there is any conflict with the former.

The APA divides administrative rules / regulations into legislative rules (*Rechtsverordnungen*) and administrative provisions (*Verwaltungsvorschriften*). A legislative rule has the binding effect of law as long as it does not violate the authorising Act, and may only be promulgated pursuant to statutory delegations³⁵ following the notice-and-comment procedures.³⁶ The most important environmental regulations are promulgated in the form of legislative rules, such as emission standards for both stationary and mobile sources, and effluent standards. An administrative agency may set administrative provisions to regulate internal affairs without statutory delegation following internal circulation procedures (without the notice-and-comment procedures for public participation). However, the administrative provisions that have a *de facto* binding effect on the regulated community – such as interpretive rules elaborating the meaning of specific provisions of law, or discretionary rules providing guidance to officials in exercising discretion embodied in law – must be signed by the head of the agency and promulgated in the official *Government Gazette*, besides internal circulation.³⁷

Local governments may enact ordinances so long as they do not contravene either the constitution or any “national” statute (enacted by the LY) or legislative rules (promulgated by an administrative agency of the central government). Violators of local ordinances may only be subjected to administrative penalties of no more than NT\$100,000³⁸ or may be punished by other kinds of administrative sanctions, such as orders to suspend their respective operations or businesses, and the revocation of their licenses / permits.³⁹ It should also be noted that several environmental statutes authorise local governments to adopt more stringent standards of regulation.⁴⁰

33. German Civil Code s. 906 prescribes that although such a landowner must tolerate minor or reasonable invasions, they may claim equitable compensation from the producer / tortfeasor.

34. See Ch. 28 (crimes against the Environment), German Criminal Code of 1980.

35. See s. 150, APA.

36. See s. 154, APA.

37. See ss. 159-II and 160-II, APA.

38. NT\$35 was equal to US\$1 on 31 July 2001.

39. See ss. 25, 26 and 30, Local (Self-Governance) System Act of 1999.

40. See, e.g. s. 20-II, APCA of 1999; s. 7-II, WPCA of 2000.

The doctrine of *stare decisis* as understood in Anglo-American legal systems is not recognised in Taiwan. Yet, the officially selected judicial precedents of court decisions, to a large extent, do have *de facto* binding effect in practice.⁴¹

Judicial System

The constitution unequivocally provides that the JY is the highest judicial organ of the country and shall therefore be in charge of civil, criminal and administrative trials, disciplinary punishment against public employees, as well as constitutional interpretation (constitutional review). The JY also unifies interpretation of laws and regulations.⁴² However, for years the JY has only exercised the latter two jurisdictions, via its up to 17 grand justices. In the meantime, all of the JY's other jurisdictional responsibilities have been assigned to the ordinary courts (which include the Supreme Court, High Courts and District Courts for civil and criminal trials), the Administrative Courts (which are responsible for trying suits against an administrative decision made by an administrative agency), as well as the Committee for Disciplining Public Employees respectively.⁴³ Such a highly diversified court system will be transformed by the end of 2007.⁴⁴ The current system and the scheduled transformation are illustrated in Figure 14.1.

14.030

Most environmental cases involve challenges to a particular regulatory action taken by an environmental agency and will therefore fall under the jurisdiction of the Administrative Courts. As of 1 July 2000, a single Administrative Court has been renamed as the Supreme Administrative Court and supplemented with several subordinate High Administrative Courts. Furthermore, the thoroughly revised Administrative Litigation Act (ALA), in addition to the proceedings for revocation,⁴⁵ has adopted two additional types of proceedings, *i.e.* proceedings for declaration⁴⁶ as well as proceedings for effecting action or

41. See *Abstracts of the Precedents of the Supreme Court, 1927–1994* (Taipei, 1994); *Abstracts of the Precedents of the Administrative Court, 1933–1992* (Taipei, 1992).

In addition, the Council of Grand Justices has reviewed the constitutionality of judicial precedents as if they were administrative rules / regulations. See, *e.g.* Interpretations No. 154, 201, 243 and 482.

42. See Arts. 77 and 78, ROC Const. In addition, since December 1993, the Constitutional Court has been established in accordance with the additional articles (Art. 5, s. 4) to adjudicate cases concerning the dissolution of political parties that have violated the constitution. The court is composed of all the grand justices and presided over by its most junior one.

43. See s. 7, the Organic Statute of the Judicial Yuan (as amended 1992).

44. Judicial Yuan, *Conclusions of the National Conference for Judicial Reform and the Reform Timetable* (26 July 1999).

45. See s. 4-I, ALA:

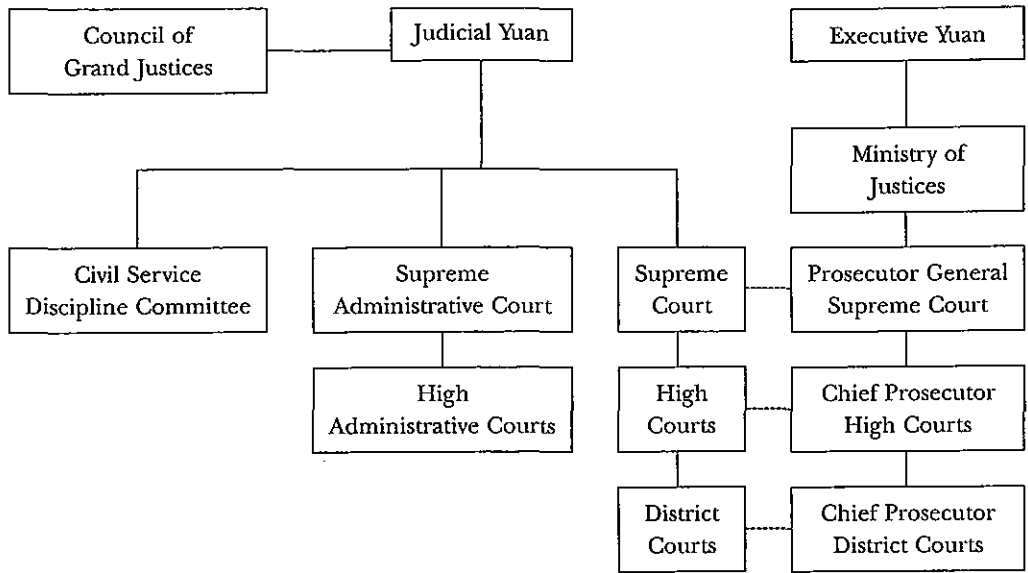
"Where a person's rights or legal interests are infringed upon through an unlawful administrative act by a central or local government agency, and the person disagrees with the decision rendered by the administrative appeal instituted in accordance with the Administrative Appeal Act, or if no decision has been rendered within three months after initiating the appeal nor during the two-month extension thereafter, such a person may initiate an action for revocation in the high administrative court."

46. See s. 6-I, ALA:

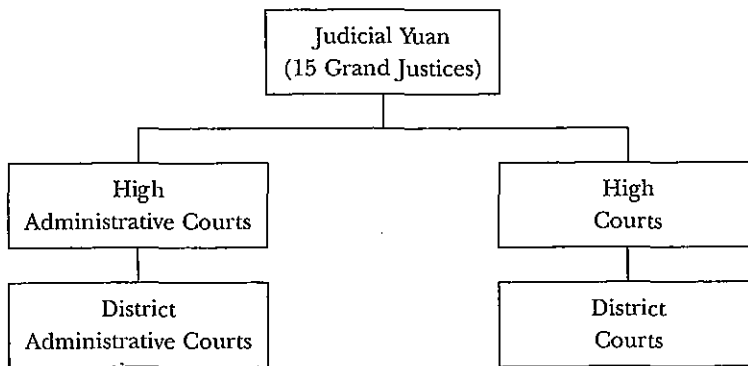
"No actions for a declaration of the nullity of an administrative act or for a declaration of whether a certain legal relation under the public law does or does not exist shall be initiated, unless the plaintiff has a legal interest in obtaining said declaratory judgment. The same shall apply to the initiation of an action for a declaration of the illegality of an administrative act which was previously executed or vitiated due to other reasons."

Figure 14.1 Judicial System of Taiwan

Status Quo



After 1 January 2008



payment.⁴⁷ Nevertheless, an administrative suit can only be brought against a particularised administrative decision (administrative act). An abstract or general administrative decision, such as rule making, may not be challenged “directly” in the Administrative Courts.

Judges of all courts are non-partisan, and with the exception of the grand justices,⁴⁸ can hold office for life unless found guilty of a criminal offence, subjected to the disciplinary action of dismissal, or declared to be under interdiction.⁴⁹

ENVIRONMENTAL POLICY

International Influence

Since 25 October 1971, when the People’s Republic of China (Communist China) replaced the Republic of China as a member of the United Nations, Taiwan has been unable to be a signatory state to various international conventions, including multilateral environmental agreements. Yet, the international community continues to influence Taiwan’s environmental policies indirectly. The most influential of all matters is the threat of trade sanctions.

14.035

An example of such influence is well illustrated by the recent international criticism of Taiwan’s wildlife conservation efforts. News of this reached a peak on 25 March 1994, when the Convention on International Trade in Endangered Species (CITES) concluded at its standing committee meeting in Geneva that Taiwan’s proposed actions “toward meeting minimum requirements have not yet been implemented”.⁵⁰ Following the decision of the CITES standing committee, the US government invoked the Pelly Amendment⁵¹ to impose trade sanctions on Taiwan in April 1994, and went on to announce a ban on imports of Taiwan wildlife and wildlife products, effective 19 August 1994.⁵² Faced with these unprecedented pressures imposed by the international community, the lawmakers of Taiwan decided to substantially revise the Wildlife Conservation Act in 1994.⁵³

47. See s. 8-I, ALA:

“an action for effecting payments with respect to payments in property interests due to certain reasons arising from the public law, or for payments in non-property interests other than a petition for taking an administrative act, may be initiated by a person against a central or local government agency. The same shall apply to payments arising from public law contracts.”

48. Grand Justices serve a term of nine years and are eligible for re-appointment, s. 5-II, the Organic Statute of the Judicial Yuan (as amended 1992). However, from 2003, grand justices will only be able to serve a term of eight years and will not be eligible for re-appointment, Art. 5, s. 1, Additional Articles of 2000.

49. Arts. 80, 81, ROC Const.; s. 32, the Statute for Judicial Personnel (as amended 1989).

50. See 59 Fed. Reg. 22,044 (28 April 1994).

51. See s. 8, Fisherman’s Protective Act of 1967 (22 USC s. 1978).

52. According to the US Fish and Wildlife Service, the total value of wildlife imports from Taiwan to the US was about US\$22 million in 1992. 59 Fed. Reg. 22,045 (28 April 1994). The ban was lifted on 30 June 1995.

53. The original act consists of 45 articles; the revised act contains 57 articles.

Major Domestic Forces

Branches of government

14.040 Though policy making and implementation is mainly the responsibility of the Cabinet (EY), other co-ordinate branches of the government also have potential influence. Almost simultaneous with the demise of the authoritarian regime through the lifting of martial law, the LY steadily strengthened its power. With the transformation of the constitutional structure into a presidential system, every LY member is now equipped with eight assistants and the LY itself with a Bureau of Legislative Staff. As a result, almost every important law bill proposed by the EY will be considered together with similar bills proposed by members of the LY. A few insistent LY members can substantially shape the policy and wording of a bill.

The CY may also influence environmental policy through impeachment or censure. The CY passed a resolution of correction in 1995, for example, to condemn the Tai Power Corporation for expanding the generating capacity of its fourth nuclear power plant illegally. The move was allegedly made after an environmental impact assessment (EIA) had been conducted and approved. In addition, more and more environmental statutes require a business to establish an environmental unit with specialised personnel to manage pollution control. Such personnel must possess a license before taking such a post. Such a license can only be issued after passing an examination held by the examination yuan. The examination yuan is allocated much discretion in holding the necessary examinations. The JY may, of course, through the process of judicial review play an influential role in dictating environmental policies as well.

Environmental Protection Agency

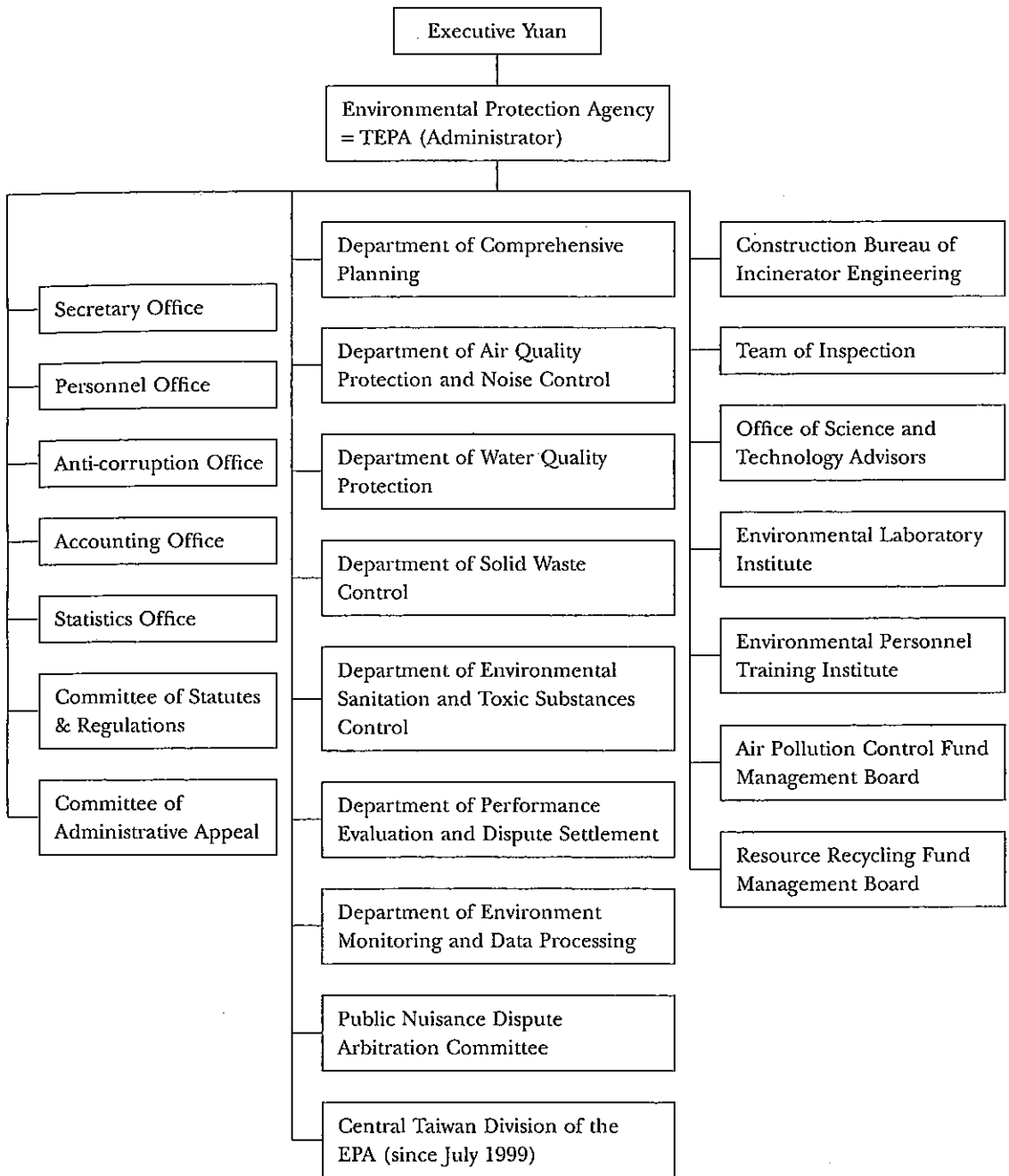
14.045 The responsible organisation for environmental protection in the central government is the Environmental Protection Agency (Taiwan's EPA is known as the TEPA), a ministry-equivalent agency established on 22 August 1987.⁵⁴ Presently, the TEPA has more than 700 persons and is composed of seven departments, six offices, three committees and several subordinate institutions (see Figure 14.2 below). Most of the bureaucrats in the TEPA have environmental engineering backgrounds and the most influential bureaucrats have been educated in the US. It is therefore no surprise to find that Taiwan's environmental laws have been heavily influenced by the US.

Other environmental agencies

14.050 Through the TEPA, most pollution control responsibilities at the central government are integrated. However, the responsibilities of natural resource conservation are still shared by many other agencies. The Council of Agriculture (COA) is the most important agency because it is responsible for wildlife, forest, as well as soil and water

54. In January 1982, the then Section of Environmental Sanitation within the Health Administration was transformed into the Bureau of Environmental Protection. In August 1987, the bureau became the TEPA.

Figure 14.2 TEPA Organisation Chart



conservation. In addition, the Ministry of the Interior (MOI) is responsible for the management of national parks and coastal zones.

Environmental groups

- 14.055 Generally, environmental groups in Taiwan have yet to emerge as strong players in shaping environmental policy. A lack of funding, expertise and leadership are the common problems suffered by them. The New Environment Foundation, Green Consumers' Foundation, and the Homemakers' Union and Foundation are some of the more visible and active groups. The environmental groups mainly undertake educational activities to reveal information regarding environmental quality and serve to provide comments on proposed environmental bills.

Development Trends

- 14.060 One may fairly regard the establishment of the TEPA in 1987 as a milestone in the development of Taiwanese environmental policy. The most remarkable trends of environmental policy over the past decade are summarised below.

Command-and-control regulation with ambiguous goals

- 14.065 Generally, the main theme in Taiwanese environmental law has been command-and-control (CAC) regulations. Instead of dictating specific goals for environmental quality, the whole regulatory regime embraces only some ambiguous goals. The Air Pollution Control Act (APCA), for example, strives for clean air without indicating exactly how clean the air should be, *i.e.* without setting a binding air quality standard. In practice, all control efforts have focused on the employment of emission / effluent standards as a mere mechanism for pollution abatement. The uncertainty of environmental regulation is exacerbated for several other reasons.

First, current environmental statutes contain little restraint on the delegation of legislative powers to the responsible agencies. Neither "an intelligible principle",⁵⁵ such as health based⁵⁶ or technology based⁵⁷ standards, nor the "content, purpose and outreach"⁵⁸ of such a legislative delegation is seriously required under the enabling statute. These almost blank authorisations gave the responsible agency substantially unlimited discretion in deciding the stringency of various regulatory standards.

55. See, *e.g.* *J. Hampton, Jr. & Co. v. United States*, 276 US 394, 409 (1928); *United States v. Grimaud*, 220 US 506, 517 (1911); *Field v. Clark*, 143 US 648 (1892); *Cargo of Brig Aurora v. United States*, 111 US (7 Cranch) 382, 386 (1813).

56. For example, the primary national ambient air quality standards (NAAQS) in the US have to be set "requisite to protect public health" but "allowing an adequate margin of safety." See 42 USC s. 7409(b)(1)(1988).

57. Various emission and effluent standards in the US, such as "new source performance standards" for the new and modified non-major stationary air pollution sources, "best practicable control technology" standards and "best available technology economically achievable" standards for existing industrial water pollution sources, are to be set based on consideration of technology as well as economic feasibility. See, *e.g.* 33 USC s. 1314(b)(4)(B)(1988).

58. German *Grundgesetz* [Constitution] Art. 80-I requires that the specification of content (*Inhalt*), purpose (*Zweck*), and boundary (*Ausmass*) of such legislative delegation.

Moreover, until very recently there had been no notice-and-comment procedural requirements for rule making. Although the newly passed APA finally established such notice-and-comment procedures, whether the Administrative Courts (via judicial review) will require the responsible agency to give fair reasons for its rule making is yet to be determined.

Regulation through guided increment

Regulatory standards of varying levels are usually set for different industries or enterprises according to their size, production process and types of fuels employed. The distinction between the new and the existing sources, however, lies in different deadlines for meeting the same applicable standards.⁵⁹ In reviewing the evolution of emission standards (both for stationary and mobile sources) and effluent standards, one can easily recognise a general pattern of "guided increment",⁶⁰ whereby agencies have continuously raised their standards in phases. Effective dates, for example, were set for effluent standards to become more stringent as of 1 January 1993 and 1 January 1998, and the relevant dates for emission standards for stationary sources were set for 1 July 1989 and 1 July 1993.⁶¹ All emission or effluent standards in Taiwan regulate pollutant concentration only, and are directly applied without transforming the standards into any particular discharge quantity limitations for individual sources.

14.070

Selective enforcement of law

Selective enforcement has been one of the hallmarks of Taiwan's environmental law. This policy is demonstrated in several ways. Firstly, the government has focused most of its efforts on the pollution control of state enterprises. This could in part be due to the fact that the government directly oversees the management of state enterprises, and partly because state enterprises are usually major pollution contributors. The TEPA, for example, successfully forced the China Petroleum Corporation, a monopoly state enterprise, to lower the sulphur content in its gas from 0.5 per cent in 1999 to 0.05 per cent in 1998, and to launch unleaded gas in 1987.⁶² Secondly, the government has from time to time launched abatement campaigns against selected major polluting industries.⁶³ Recently, the TEPA also tried to initiate several integrated abatement programmes for some heavily polluted river basins.⁶⁴

14.075

59. See, e.g. "Air Pollutants Emission Standards for Stationary Sources," (May 1992) 53 *TEPA Gazette* 2. This differs sharply from the American practice under which new sources are always subject to more stringent standards than those applied to existing sources.

60. David Foster, "Planning for the Development of Economic Incentives under Institutional Constraints: The Role for Guided Incrementalism," E. Joeres and M. David eds (1983), *Buying A Better Environment: Cost-Effective Regulation Through Permit Trading* 71, p. 76.

61. Similar landmarks are identified in the Air Pollutants Emission Standards for Modes of Transportation. Those for new vehicles are: 1 July 1987, 1 July 1990, and 1 July 1995. See (August 1992) 56 *TEPA Gazette* 10.

62. The details can be found at the Environmental Protection Administration website: <http://www.epa.gov.tw/F/index.htm> (visited 4 August 2001).

63. For examples see Dennis Tang, "The Environmental Laws and Regulations of Taiwan: A Comparative Law Perspective," (1993) 26 *Vanderbilt Journal of Transnational Law* 521, pp. 548-549.

64. See, e.g. TEPA, *Comprehensive Environmental Plan for River Basins* (December 1994).

Finally, selective enforcement has been directed against existing sources, rather than at new sources. In order to protect their re-election prospects, popularly elected mayors and county magistrates are often disinclined to strictly enforce laws against existing sources. For the same reason, these officials are prone to take sides with residents in resisting enforcement action against new sources from established local sites. The withdrawal of Bayer investment in Tai-Chung County in March 1998 is a salient example.⁶⁵ This practice of lax and selective enforcement by local politicians against existing sources coupled with a strong disinclination towards new sources has led to kind of "new sources bias".

14.080 Tortured application of economic instruments

Recognising that environmental pollution comes as a result of market failure, the Taiwanese government has adopted all kinds of economic instruments in addition to CAC regulations to force private decision makers to internalise the externalities involved. The most common economic instruments include subsidies, emission / effluent charges and transferable / tradable discharge permits. In spite of having provided various tax incentives, such as exemption from import duties, accelerated depreciation, investment credits, as well as low interest loans for variant pollution control investments, the effectiveness of these environmental subsidies has been very limited in Taiwan, as it has been elsewhere.⁶⁶

What has attracted the most attention in this regard is the controversial imposition of Air Pollution Control Fees.⁶⁷ In March 1995, the TEPA promulgated the Measures for Collecting Air Pollution Control Fees (the Measures)⁶⁸ pursuant to a broad delegation⁶⁹ of power under the APCA. According to the Measures, both stationary sources and mobile sources were subject to the charges. The imposition of fees on stationary sources

65. The Bayer Far East Polyurethane Co., Ltd. applied for permission to install a plant for the production of toluene diisocyanate (TDI) in November 1994. In September 1987, the investment project passed EIA and the then Taiwan Provincial Government issued a permit to the business for 50 years. However, the residents of Tai-Chung County, where the plant was to be located, strongly protested against the project and the county magistrate proposed to hold a popular policy vote for a final resolution of the matter. In March 1988, the Bayer Co. announced the withdrawal of the investment on the ground that no one could guarantee that a permit for operation would be granted.

66. See, e.g. Dennis Tang, *On the Feasibility of Economic Incentives in Taiwan's Environmental Regulations: Lessons from the American Experience* (Taipei: Academia Sinica, 1990), pp. 115-128, 362-367.

67. See Dennis Tang, "Applying Economic Instruments for Environmental Protection in Chinese Taipei: Misapplications and Cures," Keynote Speech, delivered on Workshop on Economic Instruments Toward Sustainable Cities in APEC, 17 December 1997 for the details.

68. TEPA Public Notice 84 (Air) No. 14106 (23 March 1995), reprinted in (April 1995) 88 *TEPA Gazette* 2.

69. Air Pollution Control Act of 1992, s. 10 reads:

"The regulatory agencies of all levels of government shall collect air pollution control fees based upon the type and amount of the air pollutants discharged by polluting sources.

The classification of the sources mentioned in the last section and the detailed measures for collecting the fees shall, after consulting relevant agencies, be promulgated by the regulatory agency of the central government."

was to be carried out in two phases. First, effective on 1 July 1995, the emission fees were to be collected based upon the fuel consumption of each source. Then, effective on a date to be set by the TEPA, the fees would be collected according to the nature and amounts of actual emissions from these sources.⁷⁰ The TEPA collected the fees directly from oil and coal importers and producers based on the energy inputs, sulphur content, and ozone depleting substances (ODSs); the importers and producers then passed the cost of the fee onto the users, *i.e.* the stationary sources. For mobile sources, the emission fees were collected directly from the users of motor vehicles based on the quantity of gasoline or diesel consumed, regardless of actual emissions.⁷¹ All revenues collected went to the Air Pollution Control Fund, and were to be spent for air pollution control related purposes only.⁷²

On 9 June 1995, 67 members of the LY filed an application to the Council of Grand Justices to challenge the constitutionality of the measures. On 9 May 1997, the council reached its judgment as Interpretation No. 426. Though the justices characterised the emission fees as “special charges” (*Sonderabgaben*) instead of general taxes,⁷³ they decided that the TEPA’s practice of collecting fees based solely upon fuel consumption by mobile sources while excluding stationary sources was in obvious violation of the principle of fair shouldering. In response, the TEPA revised its Measures to enlarge its coverage of the fees for stationary sources in January 1997. As of 1 July 1997, construction sites were also added to the list of fee payees.

Regrettably, the justices failed to point to a much more important defect in the measures – the inconsistency between the basis on which these charges are prescribed in the Measures (as fuel consumption) and that specified in the enabling act (as type and quantity of air pollutants emitted). Understandably, the TEPA chose to use quantity of fuel as the basis for its fees because of the ease of administration (low cost of fee collection and low possibility of evasion). The TEPA’s decision to focus on numerous mobile sources was mainly one that was revenue-driven. The emission charges prescribed in the Measures are actually “input charges”, at best “carbon taxes”, contrary to the title of “output charges” or “emission charges”.⁷⁴ A reasonable connection between the fees charged and the pollution produced (*i.e.* the quantity and hazardousness of the pollutants involved) is necessary or it is not an economic incentives programme for environmental protection.

70. See s. 3, Measures for Collecting Air Pollution Control Fees (the Measures).

71. See s. 4, the Measures.

72. See s. 14, the Measures (there are nine broadly phrased purposes). See also TEPA, “Measures for Collecting, Safekeeping and Spending The Air Pollution Control Fund,” reprinted in (August 1995) 92 *TEPA Gazette* 2.

73. Special charges are financial burdens imposed on targeted groups. The council then held that the purpose of the programme, the payees, and usage of the fees must be prescribed by law. If a law authorises an executive agency to prescribe by administrative order, the legislative authorisation must satisfy the requirements of specificity and clarity. The measures in dispute, based on the full context of the act, cannot be judged to lack specificity and clarity.

74. Carbon taxes are commonly levied on top of existing excises on fossil fuels. See OECD, *Managing the Environment: The Role of Economic Instruments* 73 (Paris, 1994), Table 3.12 for details.

Public access to environmental information

- 14.085 Although no statute provides the general public with access to environmental information, the newly passed APA does contain some framework provisions securing public access to government information.⁷⁵ Before the relevant legal network is fully constructed, such as the enactment of the Freedom of Government Information Act, an interested party is only entitled to limited inspection and copying of the official files that are controlled by an administrative agency.⁷⁶ For general environmental information, one can refer to the Environmental White Paper, and Yearbook of Environmental Protection Statistics which is published by the TEPA on an annual basis. In 1998, the TEPA launched the environmental law transparency project and made the English translations of more than 20 of the most important environmental laws and regulations available on its website (<http://www.epa.gov.tw>).

Green government procurement

- 14.090 Article 96 of the 1998 Government Procurement Act provides that a government entity⁷⁷ may, in its tender documents, indicate a preference for a product that is granted an eco-label or is otherwise manufactured or disposed of in a manner consistent with recycling or energy-saving requirements. Such a preference may include a price difference of no more than 10 per cent. Little information about the effectiveness or use of such a green procurement clause is available.

ENVIRONMENTAL LEGISLATION

- 14.095 A comprehensive environmental law regime has evolved in Taiwan since the establishment of the TEPA in 1987. Table 14.1 illustrates this evolution.

Environmental Impact Assessment

- 14.100 The Environmental Impact Assessment Act (EIA Act) of 1994,⁷⁸ most recently amended in 1999, is the first legislation in Taiwan dealing with environmental issues in an integrated manner.⁷⁹

75. See s. 45, APA.

76. See s. 46, APA.

77. A government entity means an administrative agency, a state-run enterprise, or a public school. See s. 3, Government Procurement Act.

78. English translation by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

79. Prior to its enactment, the Cabinet had adopted two administrative orders to require EIAs of selected major governmental construction projects. See the "Program for Speeding up the Promotion of Environmental Impact Assessment" (EY Order 74 (Sanitation) No. 19,080 (10 / 17 / 1985)) and the "Follow Up Program for Speeding up the Promotion of Environmental Impact Assessment" (EY Order 80 (Environment) No. 11,754 (4 / 17 / 1991)).

Table 14.1 Major Environmental Legislation in Taiwan

Period Subject	1960-1969	1970-1979	1980-1989	1990-1999	2000-
General Policy				Environmental Impact Assessment Act (EIAA) of 1994 EIAA Amend. of 1999	
Air Pollution Control		Air Pollution Control Act (APCA) of 1975	APCA Amend. of 1982	APCA Amend. of 1982 APCA Amend. of 1999	
Water Pollution Control		Water Pollution Control Act (WPCA) of 1974 Drinking Water Management Act (DWMA) of 1972	WPCA Amend. of 1983	WPCA Amend. of 1991 DWMA Amend. of 1997 DWMA Amend. of 1999	WPCA Amend. of 2000 Marine Pollution Control Act of 2000
Noise Control			Noise Control Act (NCA) of 1983	NCA Amend. of 1992 NCA Amend. of 1999	
Waste Management		Waste Disposal Act (WDA) of 1974	WDA Amend. of 1980 WDA Amend. of 1985 WDA Amend. of 1988	WDA Amend. of 1997 WDA Amend. of 1999	WDA Amend. of 2000
Toxic Substances Control			Toxic Chemicals Regulation Act (TCRA) of 1986 TCRA Amend. of 1988	TCRA Amend. of 1997 TCRA Amend. of 1999	

(Table 14.1: continued)

Period Subject	1960-1969	1970-1979	1980-1989	1990-1999	2000-
Pesticides Control				Environmental Agent Control Act (EACA) of 1997 EACA Amend of 1999	
Radiation	Atomic Energy Act (AEA) of 1968	AEA Amend. of 1971			
Conservation and Preservation		National Park Act (NPA) of 1972	Cultural Heritage Preservation Act (CHPA) of 1982 Wildlife Conservation Act (WCA) of 1989	CHPA Amend. of Jan, 1997 CHPA Amend. of May, 1997 Water & Soil Conservation Act (WSCA) of May, 1994 WSCA Amend. of Oct, 1994 WCA Amend. of 1994	CHPA Amend. of 2000 WSCA Amend. of 2000

Activities that may require EIA

Instead of listing categorical exclusions, the EIA Act specifically provides that certain types of activities shall be subject to environmental impact assessments (EIAs) whenever these might have an adverse impact on the environment.⁸⁰ The EIA Act also

80. See s. 5-1, EIA Act. These activities are:

1. establishment of factories and development of industrial parks;
2. construction of roads, railways, mass rapid transit systems, harbours and airports;
3. extraction of soil and stone; exploitation and extraction of minerals;
4. construction of works for water storage, water supply, flood control and drainage;
5. development and utilisation of lands reserved for agriculture, forest, fishing and breeding;
6. development of recreational areas, scenic areas, golf courses, and sports fields;
7. construction of cultural, educational and medical establishments;
8. development of new towns, construction of high buildings, and renovation of inner cities;
9. construction of environmental protection facilities;
10. exploitation of nuclear energy and other energies, and construction of nuclear waste storage and treatment sites; and
11. other activities so designated by the central responsible agency, *i.e.* the TEPA.

authorises⁸¹ the TEPA to promulgate rules⁸² to further identify which precise activities require EIAs and to establish guidelines⁸³ for conducting them. In addition to development activities, all “governmental policies” that might have an adverse impact on the environment are subject to EIAs.⁸⁴

Who conducts an EIA?

Unlike the US, where a federal agency has the duty of preparing the Environmental Impact Statement (EIS),⁸⁵ the EIA Act assigns the responsibility for preparing an EIA to the project proponent, while reserving the power of reviewing the EIA to the central environmental agency, *i.e.* the TEPA.⁸⁶ However, in reviewing EIAs, the TEPA is required to set up an “EIA Review Committee” where no less than two thirds of the members must be experts or academicians.⁸⁷ In practice, the TEPA administrator usually adopts the committee’s decisions.

14.110

The EIA process

The EIA Act provides for an environmental review process analogous to that which is required for an EIS in the US. It includes screening,⁸⁸ scoping,⁸⁹ a draft EIS (EIA Report),⁹⁰ a final EIS (Final EIA Report),⁹¹ and post-decision monitoring.⁹² One notable distinction is that the responsible agency having jurisdiction over the development project must not issue a permit for construction until the TEPA completes the EIA review process.⁹³ The entire EIA process is illustrated in Figure 14.3.

14.115

81. See s. 5-II, EIA Act.

82. See TEPA, Details and Scope Identification Criteria for the Development Activities That Shall Conduct Environmental Impact Assessment, TEPA Public Notice 84 (Comprehensive) No. 54036 (10 / 18 / 1995), reprinted in (November 1995) 95 *TEPA Gazette* 92.

83. By June 1996, the TEPA had announced 21 EIA guidelines to guide the operation of EIAs for various construction projects. These include EIA Guidelines for Nuclear Power Plants (TEPA Public Notice 84 (Comprehensive) No. 69167 (12 / 27 / 1995)), reprinted in (January 1996) 97 *TEPA Gazette* 241; and EIA Guidelines for Incinerators (TEPA Public Notice 84 (Comprehensive) No. 60018 (11 / 8 / 1995)), reprinted in (December 1995) 96 *TEPA Gazette* 3. Since 1 January 1998, a uniform guideline has replaced all of these project-specific guidelines. See “Guidelines for Conducting Environmental Impact Assessment of Development Activities” (12 / 31 / 1997), (January 1998) 121 *TEPA Gazette* 43.

84. See s. 4, EIA Act. This provision was not part of the bill introduced by the TEPA. Rather, this provision was inserted by the legislators during review.

85. The agency may hire outside consultants to prepare the EIS, but the agency remains responsible for the scope and contents of the EIS. 42 USC s. 4332(2)(C) and (D).

86. *Cf.* ss. 6, 3 and 2, EIA Act.

87. See s. 3-II, EIA Act.

88. See s. 6, EIA Act.

89. See s. 10, EIA Act.

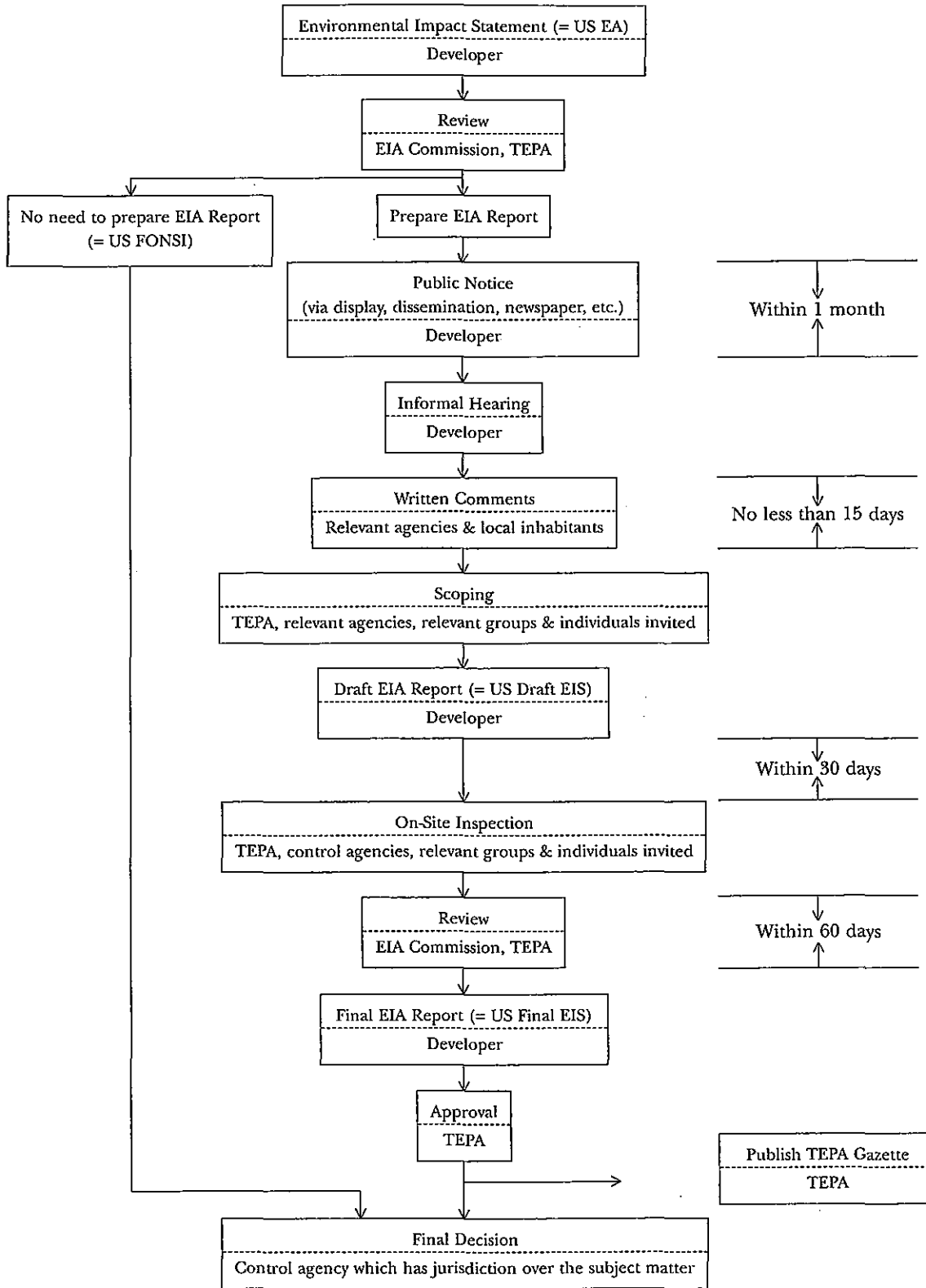
90. See s. 11, EIA Act.

91. See s. 13, EIA Act.

92. See s. 18, EIA Act.

93. See s. 14-I, EIA Act. A person who undertakes construction without a legally issued permit shall be punished by an administrative penalty of NT\$300,000 to NT\$1,000,000; and if the violator(s) fail to suspend the construction, its representative shall be punished by imprisonment of no more than three years and a fine of no more than NT\$300,000, s. 22, EIA Act.

Figure 14.3 EIA Process



Contents of the EIA report

The EIA Act enumerates a list of information to be provided in an EIA Report.⁹⁴ Despite its length, it remains unclear whether or not “of the alternatives” proposed, the *alternative of no action* is acceptable. The EIA Act also does not guarantee an EIA Report which provides a clear definition of the issues and consequently a clear basis for choosing an alternative from among the courses of action proposed. It is ambiguous whether the TEPA, after reviewing the proposed project, must eventually adopt the most environmentally sound alternative.

14.120

Post-decision monitoring

The EIA Act prescribes⁹⁵ that the agency responsible for EIAs (*i.e.* the TEPA) shall supervise the implementation of the EIS (which is equivalent to a US Environmental Assessment), the EIA Report (which is equivalent to a US EIS), as well as EIA review conclusions. Whenever necessary, the developer may be required to submit an Environmental Impact Investigation Report (EIIR) which serves to provide a periodical comparison between the pre-development and post-development status of environmental changes. If there are adverse impacts on the environment, the TEPA shall order the developer to propose, within a specific time period, “response strategies” to be implemented upon approval.⁹⁶

14.125

The EIA Act follows the “gradual escalation” pattern of enforcement sanction.⁹⁷ In particular, the Act states that those who fail either to submit an EIIR when so ordered, to propose “response strategies” or to implement the approved “response strategies” shall be subjected to an administrative penalty of NT\$300,000 to NT\$1,500,000. Such violator(s) are also made liable for further “continuous fines on a daily basis” if the violator(s) fails to make corrections within the specified time period.⁹⁸ If the continuous violation

94. See s. 11-II, EIA Act. The information required is:

1. name of the developer and the location of its main business office;
2. name, address and ID number of the representative(s) of the developer;
3. signature of the persons who have prepared the comprehensive summary of the EIA Report and who evaluated the various kinds of environmental impact;
4. name and location of the development project;
5. purpose and contents of the development project;
6. status quo description of the environment to be affected, primary and secondary consequences of the project, and relevant project plans;
7. prediction, analysis and evaluation of environmental impacts;
8. measures to mitigate or avoid adverse environmental impacts;
9. alternatives to undertaking the project as proposed;
10. comprehensive plan for environmental management;
11. responses to the comments by relevant agencies;
12. responses to the comments by local residents;
13. conclusion and recommendation;
14. expenses required for environmental protection in project design;
15. summary of strategies for mitigating or avoiding adverse environmental impact; and
16. references.

95. See s. 18-I, EIA Act.

96. See s. 18-III, EIA Act.

97. See Dennis Tang, n. 66 above, pp. 540–543 for details.

98. See s. 23-I, EIA Act.

is found to be serious, the TEPA may request the responsible agency that has jurisdiction over the development project to suspend its construction; or when necessary, the TEPA may proceed to order suspension directly. Those who fail to follow the suspension order will face imprisonment of no more than three years and be subject to a criminal fine of no more than NT\$300,000.⁹⁹

Public participation

- 14.130 The EIA Act provides unprecedented and abundant opportunities for public participation. All relevant agencies, groups, academicians, experts and representatives of local residents, for example, are required under the EIA Act to be invited to participate in the decision making process through scoping and on-site inspection before reviewing the draft EIA Report.¹⁰⁰ The public, however, cannot comment on either the draft EIA Report or the final EIA Report, although the TEPA has the duty to publish a summary of its review conclusions in the *TEPA Gazette*. A 1995 interpretative rule¹⁰¹ issued by the Ministry of Justice clarified that a final decision made by the TEPA on an EIA Report constitutes an "administrative act" and can thus be reviewed by administrative courts. Yet, it is still uncertain whether the TEPA's "determination of no need to prepare an EIA Report" (which is equivalent to the "Finding of No Significant Impact" (FONSI) under the US National Environmental Policy Act) constitutes an "administrative act" and can thus be challenged in administrative courts. It is also unclear if a violation of any aspect of the EIA process constitutes an agency error subject to judicial review (by administrative courts).

Recommendations for revision

- 14.135 To function effectively, some modifications have to be made to the EIA Act. The essence of scoping, for example, should be unambiguously defined to enable the identification of the significant issues that need to be analysed in an EIA Report.¹⁰² The "Environmental Impact Explanation" (EIE), the equivalent of an Environmental Assessment (EA) in the US, should be clarified and used as a screening tool.¹⁰³ All environment related requirements of a development project, such as soil-and-water preservation plans,¹⁰⁴ should be integrated as much as possible into the EIA process to improve

99. See s. 23-II, EIA Act.

100. See ss. 10 and 12, EIA Act.

101. Ministry of Justice, Circular No. 18,033 (29 July 1995), reprinted in (October 1995) 94 *TEPA Gazette* 288.

102. The TEPA should revise the Implementation Rules for the EIA Act (See (November 1995) 95 *TEPA Gazette* 3) to require that three types of actions (connected actions, cumulative actions and similar actions), three types of alternatives (no action alternative, other reasonable courses of action and mitigation measures) and three types of impact (direct, indirect and cumulative) be considered / discussed in the EIA Report. See 40 CFR ss. 1508.25 and 1501.7 (1994).

103. The EIA Act may have mistakenly treated EIS as a draft EIA Report, the equivalent of EIS in the US. This seems plausible if one compares the contents of the Taiwanese EIE with the EA of the US. Cf. s. 6-II, EIA Act and 40 CFR s. 1508.9 (1994).

104. See, e.g. Arts. 12 and 13 of Soil and Water Conservation Act; s. 2, Art. 30 of the Hillside Conservation and Utilisation Act.

decision consistency and bureaucratic efficiency. Also, in order to provide for meaningful public participation, the notice-and-comment procedures¹⁰⁵ should be adopted during, rather than before, scoping. Notice-and-comment procedures should be provided for in reviewing the draft and final EIA Reports. The TEPA should, via circular, voluntarily construe a “determination of no need to prepare an EIA Report” as an “administrative act” subject to judicial review.

In 1999, the TEPA completed 206 EIA cases. Among them, five (2.4 per cent) applications were approved, 149 (72.3 per cent) were approved with conditions, and 13 cases (6.3 per cent) were denied.¹⁰⁶

Air Pollution Control

The Air Pollution Control Act (APCA)¹⁰⁷ was enacted in 1975 and amended in 1982, 1992 and 1999. It contains a total of 78 Articles in five chapters. 14.140

Air quality maintenance as an ambiguous statutory goal

Although the APCA requires the formulation of various regulations governing air pollution, the end goal remains ambiguous. In addition to emission standards for stationary and mobile sources, two sets of air quality control efforts are provided in the APCA. 14.145

First, the APCA requires the central responsible agency (the TEPA) to delineate, in accordance with air quality needed for the land use purposes and air quality status, all municipalities / counties / cities into three classes of air quality control regions (AQCRs).¹⁰⁸ Each municipality / county / city is required to submit an Air Quality Control Plan (AQCP) to the TEPA for approval. The AQCP must ensure, by model simulations, that emissions from a new / modified source in a Class II or III AQCR will not exceed the “allowable increase limits”.¹⁰⁹ The Air Quality Standards (AQS),¹¹⁰ however, serve only as the basis for delineating Class II from III AQCRs. In no instance does the APCA prescribe that an AQCP must attain or maintain the AQS by a specific deadline.

Moreover, the TEPA *may*, according to topographical and meteorological conditions, designate as Total Emission Control Zones (TECZs) one or several municipalities / counties / cities between which emitted air pollutants might flow, and establish Total Emissions Control Plans (TECPs).¹¹¹ New / modified sources in TECZs that have attained AQS are subject to allowable increase limits.¹¹² Existing stationary sources in those TECZs that

105. See ss. 8 and 9, EIA Act.

106. TEPA, *Yearbook of Environmental Protection Statistics, Taiwan Area, the Republic of China*, (December 2000), 2-192 (Table 6-1).

107. English translation of the APCA of 1992 by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

108. See s. 5, APCA. For the delineation, see (October 1999) 142 *TEPA Gazette* 23-29.

109. See s. 6, APCA.

110. See (August 1999) 140 *TEPA Gazette* 8 for the details of the standards.

111. See s. 8-I, APCA. So far no TECZs have been designated.

112. See s. 8-II, APCA.

have not attained AQS are required to apply to the responsible agency for an emission permit and to reduce their emissions to the targeted level within a specified time period. New / modified sources in TECZs that have not attained AQS must adopt the best available control technology (BACT) and obtain sufficient emissions credits to "offset" their emission increases.¹¹³ Other limited emission trading mechanisms, such as "banking" and "netting" for existing stationary sources are allowed.¹¹⁴

Regulation of stationary sources

- 14.150 The APCA has, since 1982, relied on the use of emission standards to control air pollution. All stationary sources must meet emission standards.¹¹⁵ The emission standards must be established by the TEPA, taking into consideration industry sectors, facilities utilised, pollutant types and geographic locations. Currently, apart from one general emission standard,¹¹⁶ there are at least 16 other special emission standards¹¹⁷ designated for various stationary sources. In general, these emission standards are applicable to both new and existing sources. Notably, the existing sources are given more time to attain the standards. Local governments may propose more stringent emission standards for stationary sources upon approval by the TEPA. For stationary sources designated by the TEPA, a permit from the responsible agency within the local government is required prior to its installation or modification.

Regulation of mobile sources

- 14.155 The APCA requires that all modes of transportation¹¹⁸ meet the emission standards established by the TEPA.¹¹⁹ A vehicle owner must obtain a certificate of compliance with the prototype emission standards before applying for a vehicle license plate.¹²⁰ Vehicles in use must undergo periodic emission inspections to ensure that they are in compliance with the given standards.¹²¹ Fuels must comply with the content and efficiency requirements established by the TEPA.¹²²

113. See s. 8-III, APCA.

114. "Banking" allows sources to store qualified emission reduction credits for later use in emission trading. "Netting" allows sources undergoing modification to escape the burden of new / modified source requirements. See s. 8-IV, APCA.

115. See s. 20, APCA.

116. "The Air Pollutants Emission Standards for Stationary Sources" (6 / 30 / 1999), (July 1999) 139 *TEPA Gazette* 20.

117. See, e.g. "Air Pollution Control and Emission Standards for the Semi-Conductor Manufacturing Industry" (4 / 07 / 1999), (May 1999) 137 *TEPA Gazette* 6; "Air Pollutants Emission Standards for Cement Manufacturing Industry" (4 / 07 / 1999), (May 1999) 137 *TEPA Gazette* 4.

118. The modes of transportation detailed in the APCA include motor vehicles, motorcycles, trains, ships and other water vessels, and aircraft. See s. 2, APCA Implementation Rules.

119. See s. 33, APCA. For the "Air Pollutants Emission Standards for Vehicles" (3 / 20 / 1996), see (April 1996) 100 *TEPA Gazette* 5.

120. See s. 37, APCA.

121. See s. 39, APCA.

122. See s. 35, APCA.

Emission fees programme

The APCA empowers responsible agencies to levy air pollution control fees based upon the type and amount of emissions from stationary sources and the types of fuel consumed by mobile sources.¹²³ Emission fees are earmarked for specified air pollution control purposes¹²⁴ and channelled into a fund that is under the supervision of a board of which two-thirds of its members must be academics, experts and representatives of environmental groups.¹²⁵ The fund reached NT\$5.2 million in the 2000 fiscal year.¹²⁶ 14.160

Noise Regulation

The Noise Pollution Control Act (NPCA) of 1983, most recently amended in 1992,¹²⁷ defines “noise” as any sound exceeding the regulatory limits. Within a noise control region (NCR) delineated by the municipal / county / city government, specific types of places (e.g. for recreational purposes or businesses), factories, construction sites and amplifiers are subject to noise pollution control standards¹²⁸ set by the TEPA. For those facilities that are prone to creating noise within an NCR, installation and operation permits are required.¹²⁹ Motor vehicles and civil aircraft will also have to meet with the noise pollution control standards¹³⁰ as established by the TEPA in concurrence with the Ministry of Transportation and Communication. Violators of the regulatory standards are subject to administrative fines of up to NT\$600,000.¹³¹ Incidentally, noise pollution tops the list of public nuisance complaints.¹³² 14.165

Water Pollution Control

The Water Pollution Control Act (WPCA)¹³³ of 1974, most recently amended in 2000, consists of 63 Articles in five chapters. 14.170

123. See s. 16, APCA; “Measures for Collecting Air Pollution Control Fees” (1 / 22 / 1997), (February 1997) 110 *TEPA Gazette* 3 (English translation by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001)).

124. See s. 18-I, APCA.

125. See s. 18-II, APCA.

126. TEPA, n. 102 above, at 2-40 (Table 1-14).

127. English translation available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

128. See “Noise Pollution Control Standards” (9 / 11 / 1996), (October 1996) 106 *TEPA Gazette* 3.

129. See “Measures Governing the Granting of Installation and Operation Permits for Facilities That Prone to Cause Noise” (5 / 19 / 1993), (June 1993) 66 *TEPA Gazette* 6.

130. See “Noise Pollution Control Standards for Motor Vehicles” (11 / 15 / 2000), (December 2000) 156 *TEPA Gazette* 35; Noise Pollution Control Standards for Civil Aircraft (10 / 18 / 2000), appeared in (November 2000) 155 *TEPA Gazette* 21.

131. See ss. 15, 17 and 18, NPCA.

132. In the year of 1999, 22,036 of 92,222 (about 24%) of petitions on nuisance concerned noise. See TEPA, n. 102 above, at 2-206 (Table 6-5).

133. English translation of the WPCA of 1991 by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

Water-quality-based approach as a backup

- 14.175 In contrast to the US Clean Water Act, the WPCA has not embraced a “zero-pollution” goal. This is evidenced by Article 5 of the Act: “[i]n order to avoid interference with the normal uses of water bodies, those utilising water bodies to transport or discharge effluent must not exceed the assimilative capacity of the water bodies.”¹³⁴ The water-quality based approach has not, until recently, played a major role in controlling water pollution. The newly revised Article 9 offers a correction by empowering the municipal / county / city government to propose total allowable discharge plans for approval by the TEPA to control the magnitude of waste water or sewage discharge.

Control of point sources

- 14.180 Major controls have been imposed on three types of point sources. Article 7 of the WPCA requires that industries, sewage systems, or sewage treatment facilities that are attached to buildings, be in compliance with the effluent standards when discharging effluents into surface water bodies.¹³⁵ The 2000 revisions mandate that all industries will have to obtain a permit before discharging waste water / sewage into surface water.¹³⁶ New / modified industrial sources must submit a Water Pollution Control Plan to the responsible local agency to review. Owners, users, or managers of sewage treatment facilities that are attached to their buildings are responsible for cleaning these facilities or to allocate the job to cleaning organisations.¹³⁷ Industries or sewage systems that adopt soil treatment systems or marine out-falls must report sample tests of their effluent quality and quantity and provide information about their electricity consumption to the responsible local agency.¹³⁸ Storage or dilution of waste water must also be approved in advance.¹³⁹

Effluent charges

- 14.185 Article 11 of the WPCA empowers the responsible local agencies to levy water pollution control fees on waste water / sewage discharged into surface water based upon its quality and quantity. Such fees can only be used to support water pollution control activities. Although Measures for Collecting Effluent Charges¹⁴⁰ was promulgated by the TEPA in 1997, the programme has not yet been implemented due to opposition from the public.

134. See s. 6-I, WPCA stipulates that the TEPA shall, in accordance with the characteristics of water bodies and conditions of areas where water bodies are situated, define water regions (WRs) and promulgate water use classification and water quality standards.

135. See Effluent Standards (12 / 24 / 1997), appeared in 121 *TEPA Registry* 7 (English translation by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001), as latest amended on 9 February 2000 (appeared in (March 2000) 147 *TEPA Registry* 3).

136. See s. 14-I, WPCA. For industries / sewage systems established prior to the revisions, Art. 59 of the Act provides for an additional two-year grace period.

137. See s. 24, WPCA.

138. See s. 22, WPCA.

139. See s. 20, WPCA.

140. See (February 1998) 122 *TEPA Gazette* 21 and (July 1998) 127 *TEPA Gazette* 59.

Marine pollution control

The Marine Pollution Control Act (MPCA) of 2000 applies to intertidal areas, inner waters, territorial seas, contiguous zones, exclusive economic zones and continental shelves that are within the territorial jurisdiction of the Republic of China.¹⁴¹ Following the same track as the WPCA, the MPCA also mandates that the TEPA promulgate ocean environment classification and quality standards. Major control efforts have been targeted at specific pollution activities, such as ocean dumping, ocean incineration, oil mining and transportation, and waste water out-falls. These activities can be undertaken only after obtaining a permit from the TEPA.¹⁴² 14.190

Waste Management

The Waste Disposal Act (WDA) of 1974, last amended in 1997,¹⁴³ was enacted to control the clearance and disposal of both general¹⁴⁴ and industrial wastes. General wastes are further divided into recyclable and non-recyclable wastes, while hazardous wastes are further divided into hazardous industrial wastes¹⁴⁵ and general industrial wastes.¹⁴⁶ 14.195

Non-recyclable general wastes

The implementing agencies¹⁴⁷ of the WDA must collect, transport and dispose of general wastes in a sanitary manner. Alternatively, the implementing agencies may, upon the authorisation from their responsible superior agencies,¹⁴⁸ delegate these responsibilities to publicly or privately owned waste management organisations.¹⁴⁹ From August 1991, rubbish disposal fees have been collected from households based upon their consumption of tap 14.200

141. See ss. 2 and 8-I, MPCA. See s. 8-II which authorises the TEPA to delineate ocean control zones and promulgate ocean environment regulation standards.

142. To apply for a permit, the operator must submit an emergency reaction plan and provide adequate liability insurance. See ss. 13, 15 and 20, MPCA.

143. English translation by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

144. "General wastes" include garbage, excrement and urine, animal corpses, or other solid or liquid wastes that have the capacity to pollute the environment and are generated by non-industrial organisations. See s. 2-I, WDA.

145. "Hazardous industrial wastes" are those generated by industrial enterprises and that contain toxic or dangerous substances in sufficient concentration or quantity to endanger human beings or pollute the environment. See s. 2-II, WDA. See also the "Identification Criteria for Hazardous Industrial Wastes" (3 / 7 / 2001), (April 2001) 160 *TEPA Gazette* 3. Ionizing radioactive waste must be disposed of in accordance with s. 10 of Art. 26 of the Atomic Energy Act.

146. "General industrial wastes" are those generated by industrial enterprises and include wastes other than hazardous industrial wastes. See s. 2-II, WDA.

147. "Implementing agency" refers to the Environmental Protection Bureau of a municipality / county / city government, or a town / village government. See s. 5, WDA.

148. "Responsible agency" refers to the TEPA at the central government level, the Municipal Government at the municipal government level, or the County / City government at the county / city government level. See s. 4, WDA.

149. See s. 10, WDA.

water.¹⁵⁰ To improve the effectiveness of such fees, on 1 July 2000, the Taipei Municipal Government shifted the fee base to standardised trash bags.¹⁵¹

Recyclable general wastes

- 14.205 The WDA requires the manufacturers, importers and sellers of recyclable general wastes to be responsible for their collection, clearance and disposal.¹⁵² Recyclable wastes¹⁵³ and the “producers” responsible for recycling are to be designated by the TEPA.¹⁵⁴ All designated manufacturers / importers must pay a Collection-Clearance-Disposal Fee (Recycling Fee) in accordance with their business / importation volume, the type of their recyclables, and the rate set by the TEPA.¹⁵⁵ Recycling Fees must be deposited into a Resource Recycling Management Fund (Recycling Fund) to pay for the actual cost of collection and certification and to subsidise the widespread use of recycled products.¹⁵⁶ This fund is managed by the Recycling Fund Management Board,¹⁵⁷ which is under the direct supervision of the TEPA.¹⁵⁸ Therefore, the recycling regime is a state-run enterprise. Table 14.2 details the breakdown of the recyclables collected in 1998 and 1999.

Disposal of industrial wastes

- 14.210 Enterprises generating industrial wastes are responsible for clearance and disposal. Alternatively, they can delegate this responsibility to publicly or privately owned waste management organisations.¹⁵⁹ The methods of and facilities for storage, clearance and disposal must comply with regulations promulgated by the TEPA.¹⁶⁰ The import, export or reuse of hazardous industrial wastes is also subject to prior approval by the TEPA.¹⁶¹

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150. See s. 11-I, WDA (the statutory authorisation); the “Measures for Collecting Clearance and Disposal Fees of General Wastes” (7 / 31 / 1991), (August 1991) 44 *TEPA Gazette* 2, last amended in (January 2001) 157 *TEPA Gazette* 11.
151. See Self-Governance Ordinance for Collecting Clearance and Disposal Fees of General Wastes in Taipei Municipality (1 / 29 / 2000).
152. See s. 10.1-I, WDA.
153. “Recyclable wastes” are articles, packaging, or containers, which, after consumption, may produce waste that is either not easily cleared away or disposed of, contains components that are not readily biodegradable, contains hazardous substances, or possesses recycling or reuse value. See s. 10.1-I, WDA.
154. See s. 10.1-II, WDA.
155. See s. 10.1-III, WDA.
156. *Id.*
157. See s. 4, “Measures for Collecting, Clearing Away and Disposing of Waste Articles and Containers” (8 / 12 / 1998), (September 1998) 129 *TEPA Gazette* 3.
158. See s. 7, “Measures for Collection, Payment, Safekeeping and Use of Trust Monies of the Recycling Fund” (8 / 12 / 1998), (September 1998) 129 *TEPA Gazette* 14; s. 6, Measures for Collection, Payment, Safekeeping and Use of Non-Trust Monies of the Recycling Fund (10 / 01 / 1998), appeared in TEPA, *Compilation of Environmental Law and Regulation, Waste* 72, (December 1998).
159. See s. 13, WDA.
160. See s. 15, WDA.
161. See s. 18, WDA; “Hazardous Industrial Waste Import, Export, Transit and Transshipment Management Measures” (9 / 13 / 1997), (September 1997) 117 *TEPA Gazette* 14 (English translation by Dennis Tang and Richard Ferris is available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001); “Measures for Granting Permits for Hazardous Industrial Waste Reuse” (6 / 26 / 1996), (July 1996) 103 *TEPA Gazette* 3.

Table 14.2 Certified Volume of Recyclable Wastes Collected

Items \ Year	1998	1999
Iron Containers	22,114,549 (kg)	55,193,606 (kg)
Aluminum Containers	2,912,407 (kg)	8,264,383 (kg)
Glass Containers	48,740,977 (kg)	54,912,708 (kg)
Tetra Pak Containers	6,472,392 (kg)	4,873,462 (kg)
Agriculture and Special Environmental Agents Containers	620,043 (kg)	726,454 (kg)
Paper Containers	2,572,500 (kg)	4,738,051 (kg)
PET Containers	33,627,070 (kg)	42,226,574 (kg)
PVC Containers	4,729,845 (kg)	2,582,211 (kg)
PP / PE Containers	5,215,106 (kg)	11,573,599 (kg)
Expansible PS Containers	2,606,392 (kg)	2,686,774 (kg)
Unexpansible PS Containers	100,677 (kg)	205,869 (kg)
Other Plastic Containers	-	7,114 (kg)
Dry Cell Batteries	13,514 (kg)	256,682 (kg)
Lead-acid Accumulators	26,285,710 (kg)	30,334,316 (kg)
Cars	52,031 (No.)	102,258 (No.)
Motorcycles	134,607 (No.)	431,504 (No.)
Tires	56,630,061 (kg)	94,647,603 (kg)
Lubricant	8,008,199 (kg)	13,023,086 (kg)
Home Electrical Appliances	416,413 (No.)	1,155,270 (No.)
Notebook Computers	458 (No.)	1,090 (No.)
Computer CPU	45,015 (No.)	207,885 (No.)
Computer Monitors	93,055 (No.)	277,000 (No.)

Source: TEPA, *Yearbook of Environmental Protection Statistics for the Taiwan Area, the Republic of China 2000*, at 2-144 ≈ 2-145 (Taipei, 2000).

The amendments to the WDA in 1999 imposed, for the first time, joint liability on both the entrusting enterprise and the entrusted publicly or privately owned waste management organisation for the clearance and disposal of the wastes. Both parties will be held liable if the entrusted management organisation is not licensed or is in violation of the relevant regulations.¹⁶² However, in spite of these measures, it is widely agreed that the disposal of industrial waste in Taiwan is still under-regulated.

Pesticide Regulation

- 14.215 The Environmental Agents Control Act (EACA) of 1997 regulates various "environmental agents" (EAS). These EAS include environmental sanitation pesticides,¹⁶³ pollution control chemicals,¹⁶⁴ and environmental microbial preparations.¹⁶⁵ EAS can be further classified into three sub-classes according to concentration and usage: technical grade; general use; and the restricted use of such environmental agents.

Registration process

- 14.220 With few announced exceptions,¹⁶⁶ all EAS must be registered with and approved by the TEPA before they can be manufactured, processed or imported.¹⁶⁷ No substantive criteria for approval is detailed in the EACA, but the TEPA may summon an *ad hoc* advisory committee to review its applications.¹⁶⁸ All environmental pesticide sellers and pest controllers must first apply for a license before commencing their business.¹⁶⁹ Those having received permits or licenses prior to the effective date of the EACA must apply for re-issuance within six months following the date of any public announcement issued by the TEPA.¹⁷⁰

Management regulations

- 14.225 The EACA imposes various regulations on the management of an EAS business. Manufacturers, for example, may only establish environmental pesticide plants that meet with the TEPA standards.¹⁷¹ The formulating or re-packing of EAS can only commence after authorisation from the TEPA.¹⁷² EAS subject to restricted use can only be sold to responsible

162. See s. 13-II, WDA.

163. Such as insecticides, acaricides, rodenticides, fungicides for environmental sanitation, and other chemicals used to control living things detrimental to environmental sanitation. See s. 3-I-(1), EACA.

164. Such as chemical compounds used for air, water, or soil pollution control, or waste treatment. See s. 3-I-(2), EACA.

165. Such as microbial agents created with natural or man-made micro-organisms or agents resulting from the metabolic processes of micro-organisms and used for air, water, or soil pollution control, waste treatment or environmental vector control. See s. 3-I-(3), EACA.

166. See s. 51, EACA.

167. See s. 7, EACA.

168. See s. 7, Highlights for Granting Permit for Environmental Agents (4 / 21 / 1998).

169. See s. 9, EACA.

170. See s. 51-I, EACA. TEPA announced that the re-issuance requirements became effective from 1 July 1998. See (87) TEPA Public Announcement (Toxic) No. 0038858 (6 / 17 / 1998).

171. See s. 11, EACA; Establishment Standards for Environmental Agents Factories (8 / 12 / 1998).

172. See s. 16, EACA.

agencies for public health or environmental protection, their subordinate agencies, or licensed environmental pesticide sellers, pest controllers, or other agencies authorised by the TEPA.¹⁷³ Storage, placement, and usage of EAS must comply with the regulations promulgated by the TEPA.¹⁷⁴ Labels for EAS must be authorised in advance by the TEPA.¹⁷⁵ Only licensed environmental pesticide sellers or pest controllers, or those who have obtained a permit may advertise EAS.¹⁷⁶ EAS manufacturers and sellers and pest controllers must keep records showing the amount of EAS manufactured, processed, exported, imported, sold and used each month, and must retain these records for three years.¹⁷⁷

Cancellation of permit or license

Those violating the above-mentioned management regulations will be punished by administrative fines of between NT\$60,000 and NT\$300,000 and be ordered to comply within a specified period.¹⁷⁸ If the violation continues after the end of the given period, or if the violation is too serious, the EAS permit or license will be cancelled.¹⁷⁹ Those whose EAS permits or licenses have been cancelled may not apply for re-issuance for one year beginning from the date of cancellation.¹⁸⁰

14.230

Toxic Substances

The Toxic Chemical Substances Control Act (TCSCA)¹⁸¹ was enacted in 1986, and most recently amended in 1999. The TCSCA regulates toxic chemical substances (TCS), defined as "any toxic chemical substance produced or derived from a production process publicly announced by TEPA." TCS are divided in four classes. Class I TCS are those that are not readily degraded or that are likely to bio-accumulate, bio-concentrate, or bio-transform and pollute the environment or endanger human health. Class II are those that might cause carcinogenesis, infertility, teratogenesis, mutagenesis or other chronic diseases. Class III are those that will pose an immediate danger, upon exposure, to human or other forms of life. Finally, Class IV are those chemicals that might pollute the environment or endanger human health.¹⁸²

14.235

173. See s. 19, EACA.

174. See s. 24, EACA; "Management Highlights for the Storage, Placement and Usage of Environmental Agents" (5 / 15 / 1998), (June 1998) 126 *TEPA Gazette* 13.

175. See s. 25, EACA.

176. See s. 30, EACA.

177. See s. 22, EACA.

178. See s. 45, EACA.

179. *Id.*

180. See s. 47, EACA.

181. English translation of the TCSCA as amended in 1997 by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

182. See s. 2-1, TCSCA.

Control of Class I, II and III toxic chemical substances

- 14.240 For Classes I, II and III TCS, the TEPA may issue either a rule¹⁸³ or an order to restrain or prohibit their "handling",¹⁸⁴ which includes the manufacture, import, export, sale, transportation, use, storage or disposal, of TCS.¹⁸⁵ The TEPA may designate any handling activity requiring permits or registration.¹⁸⁶ For those handling activities requiring permits, persons handling the substances must submit information about the composition, characteristics, management methods and other relevant information to the TEPA for review.¹⁸⁷ In addition, the TEPA shall require, by public announcement, persons handling TCS to arrange for third-party liability insurance to cover handling risks.¹⁸⁸

It should be noted that the TEPA may also regulate the total release dose (TRD) resulting from the handling of Class I or II substances.¹⁸⁹ TRD means the total dose dispersed into the air, water or soil resulting from the handling of these chemical substances.¹⁹⁰ Persons handling Class III substances shall, in accordance with relevant provisions prescribed by the TEPA, submit relevant documents concerning their toxicity, risk prevention and emergency planning measures to the responsible local agency for reference and public inspection.¹⁹¹

Control of Class IV toxic chemical substances

- 14.245 Handlers of Class IV substances are only required to submit handling records, release dose records, and relevant information concerning their toxicity.¹⁹²

Cancellation of permits or registrations

Persons who violate handling restrictions or prohibitions set by the TEPA, commence handling without acquiring a permit, or fail to arrange for third-party liability insurance to cover handling risk, can be punished by an administrative fine of between NT\$1,000,000 and NT\$5,000,000, and can be ordered to comply within a specified period. If the violation continues after the end of the specified period, they may be ordered to suspend operations or terminate their business; and if necessary, the TEPA may order such persons to wind up their business, or may cancel registration or revoke permits.¹⁹³ Those whose TCS handling permits or registrations have been

183. See, e.g. "Provisions for Toxic Chemical Substances Handling" (12 / 24 / 1999), (January 2000) 145 *TEPA Gazette* 74.

184. See s. 5-II, TCSCA.

185. See s. 2-II, TCSCA.

186. See s. 11-I, TCSCA. Persons handling the TCS so designated shall not sell or transfer TCS to parties that have not obtained permits. See s. 21, TCSCA.

187. See s. 11-II, TCSCA.

188. See s. 12, TCSCA; "Highlights for Implementing Mandatory Third Party Liability Insurance for Handling Toxic Chemical Substances" (3 / 31 / 1999), (April 1999) 136 *TEPA Gazette* 36. The TEPA has not yet announced the date for enforcing the highlights.

189. See s. 7, TCSCA.

190. See s. 2-IV, TCSCA.

191. See s. 8, TCSCA.

192. See s. 5-III, TCSCA.

193. See s. 32, TCSCA.

cancelled may not apply for re-issuance or re-registration for two years, from the date of cancellation.¹⁹⁴

Soil and Groundwater Pollution Control

The Soil and Underground Water Pollution Remediation Act (SUWPRA) of 2000¹⁹⁵ imposes, for the first time in Taiwan, comprehensive liability for the remediation of sites where the soil and groundwater are contaminated. **14.250**

General responsibilities

The responsible agencies of the municipal / county / city governments are required to periodically conduct tests of soil and groundwater quality and to publicise the results.¹⁹⁶ For those industries designated by the TEPA, landlords must provide information on soil tests whenever the land is transferred.¹⁹⁷ **14.255**

Site remediation process

If the test results exceed the Regulatory Standards for Soil and Underground Water Pollution,¹⁹⁸ the responsible agencies must start to trace the sources of pollution. When definite sources of pollution are identified, the responsible local agency must designate the contaminated land as a control site (CS). When the responsible local agency, after initial evaluation, further determines that a serious threat to the public health or the living environment exists, it must designate, upon approval by the TEPA, the contaminated land as a remediation site (RS).¹⁹⁹ **14.260**

Control Site management

For a CS, the responsible local agency must delineate the polluted area as a contamination control region and restrict any land use and / or human activities. The polluters are responsible for all damages suffered by the owners, operators or managers of these lands.²⁰⁰ In addition, the responsible local agency may order the polluters to submit a pollution control plan, and have them implement it upon approval.²⁰¹ This control **14.265**

194. See s. 8-(2), "Guidelines for Granting Toxic Chemical Substances Handling Permits" (6 / 29 / 1999), (July 1999) 139 *TEPA Gazette* 51.

195. English translation available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

196. See s. 5-I, SUWPRA. Any citizen, including the current owner, operator or manager of land must report the results to the local responsible agency. See s. 6-I, SUWPRA.

197. See s. 8-I, SUWPRA. Those who fail to provide such information acquire the same responsibilities as the current landlord, whenever such land is designated as a control site or remediation site. See s. 8-II, SUWPRA.

198. The standards are promulgated by the TEPA. See s. 5-II, SUWPRA.

199. See s. 11-II, SUWPRA.

200. See s. 14-III, SUWPRA. The question of whether this provision imposes strict liability remains unresolved at this time.

201. See s. 11-IV, SUWPRA.

will be removed after the concentration of pollutants falls below the regulatory standards.²⁰²

Remediation Site control

- 14.270 For an RS, the polluters must submit a contamination remediation plan to the responsible local agency and implement the plan upon approval.²⁰³ When the polluters cannot be identified or do not implement the remediation plan, the local responsible agency may proceed to propose its own remediation plan, and implement it upon approval by the TEPA.²⁰⁴ Other potentially responsible parties (PRP) may also propose a remediation plan before the responsible local agency conducts its own.²⁰⁵ In addition, the local responsible agency must inform the land registrar to suspend all kinds of transactions with respect to the lands owned by a polluter or PRP.²⁰⁶

Liability scheme

- 14.275 The SUWPRA imposes liability on two classes of PRPs: the polluter(s) and the relevant parties (RP), *i.e.* the owner, operator or manager of the contaminated land who is not a polluter when the land is designated as an RS.

The identified polluters are responsible for all costs related to any RS, including investigation and / or impact assessment costs,²⁰⁷ emergency response costs,²⁰⁸ or remedial costs that have been incurred by the responsible agencies.²⁰⁹ Any investigation and / or impact assessment costs or remedial costs spent by a RP can be claimed from the polluters.²¹⁰ However, a RP who, due to his / her own gross negligence, is in part responsible for the designated RS status of his / her own land, will be held jointly liable for all the above-mentioned costs incurred.²¹¹

All polluters are responsible for all damages resulting from their polluting behaviour.²¹² A RP guilty of gross negligence will be jointly liable for all the damages resulting from the RP's actions.²¹³

Remediation fund

- 14.280 To facilitate the remediation process, the SUWPRA has authorised the TEPA to collect soil and groundwater pollution fees from the manufacturers and importers of designated chemical substances. The revenue so collected is channelled to the Soil and Groundwater Pollution Remediation Fund.²¹⁴

202. See s. 11-V, SUWPRA.

203. See s. 16-I, SUWPRA.

204. See s. 16-II, SUWPRA.

205. See s. 16-III, SUWPRA.

206. See s. 15, SUWPRA.

207. See s. 12-I, SUWPRA.

208. See s. 13, SUWPRA.

209. See s. 25-II, SUWPRA.

210. See s. 25-III, SUWPRA.

211. See s. 25-II, SUWPRA.

212. It is unclear if this is on the basis of strict liability or not.

213. See s. 47, SUWPRA.

214. See s. 22, SUWPRA.

Public Nuisance Disputes Mediation

In light of increasingly vocal protests²¹⁵ by local residents against polluting and potentially polluting sources after the martial law was lifted in 1987, the Public Nuisance Disputes Mediation Act (PNDMA) was enacted in 1992 and was subsequently revised in 1998²¹⁶ and 1999. 14.285

Public nuisance disputes

Public nuisance disputes refer to civil disputes arising from public nuisances or the threat of public nuisance. Public nuisances encompass all types of human activities which destroy the living environment and damage or endanger public health, including water pollution, air pollution, soil pollution, noise, vibration, malodour, wastes, toxic substance pollution, subsidence, radioactive pollution and other activities designated as such via public announcement by the TEPA.²¹⁷ 14.290

Mediation process

A party to a public nuisance dispute may apply for mediation at the municipal / county / city mediation council under the jurisdiction of which the public nuisance dispute or related damages have arisen.²¹⁸ A mediation council may request the assistance of the relevant agencies or the court to investigate evidence.²¹⁹ A mediation council may entrust the conduct of necessary verifications to agencies or experts.²²⁰ The mediation council must sincerely and amicably provide parties with appropriate advice and assist the parties in reaching an agreement.²²¹ In the event that the parties are unable to reach an agreement, the mediation council must propose a mediation proposal and advise the parties to accept the proposal. Should the parties involved fail to express dissent to the acceptance of such a proposal within a period of 45 days, the mediation proposal is deemed to be accepted by all parties and the mediation concluded.²²² 14.295

Whenever a dispute is resolved by mediation, the mediation council must prepare a mediation accord and submit it within seven days of the settlement to the court with jurisdiction over the dispute or the damages that have arisen as a consequence for approval.²²³ A mediation accord approved by the court has the same effect as a final civil decision by a court of law. The parties may not bring a suit in a court of law with respect to the same

215. See, e.g. Dennis Tang, n. 66 above, pp. 318–319.

216. English translation of the PNDMA of 1998 by Dennis Tang and Richard Ferris available at Environmental Protection Administration website: <http://www.epa.gov.tw> (visited 4 August 2001).

217. See s. 2, PNDMA.

218. See s. 14-I, PNDMA.

219. See s. 24, PNDMA.

220. See s. 25, PNDMA. All expenses for the verifications must be borne first by the government. If later a party or parties is / are found responsible for the damages arising from the public nuisance dispute, the responsible party(ies) must reimburse the government.

221. See s. 26-I, PNDMA.

222. See s. 27, PNDMA.

223. See s. 28, PNDMA.

subject matter (*res judicata*); a mediation accord can be enforced in the same way as a court order.²²⁴

Mediation council

- 14.300** Each mediation council consists of 9 to 21 members selected and appointed by the mayor or magistrate among the representatives of relevant agencies, scholars / experts on environmental protection, law and medicine, as well as upright citizens. The scholar / expert and upright citizen members must constitute not less than two-thirds of the members of the whole council.²²⁵ One-third of the members of the mediation council constitutes a quorum. Upon the agreement of the parties, however, one or several members of the council may also mediate a public nuisance dispute.²²⁶ Each member of a mediation council independently exercises their duties in accordance with law. A member may not be dismissed during their term except for reasons enumerated in the PNDMA.²²⁷

Arbitration process

- 14.305** Parties may apply for arbitration of a dispute regarding damage claims arising from public nuisance where the dispute cannot be resolved through mediation.²²⁸ An arbitration is conducted by an arbitration tribunal which is composed of three to five members of the arbitration council designated by the chief-member of the council.²²⁹ The decision of an arbitration tribunal is made by a majority of the tribunal members.²³⁰ The arbitration tribunal hears from the parties and conducts necessary investigations before it renders a decision.²³¹ The arbitration tribunal renders its arbitration decision and delivers it to the parties within three months of an application.²³² Where the parties to arbitration have not initiated a civil action in a court over the same dispute within 20 days of delivery of the arbitration decision, or have subsequently withdrawn such a civil action, the arbitration decision is deemed an agreement. The arbitration tribunal must then submit the arbitration decision to the court for approval.²³³ An arbitration decision approved by the court will have the same effect as a final civil decision by a court of law. The parties involved may not bring a suit in a court of law with respect to the same subject matter

224. See s. 30, PNDMA.

225. See s. 5, PNDMA.

226. See s. 14, PNDMA.

227. See s. 7, PNDMA.

228. See s. 33, PNDMA.

229. See s. 34-I, PNDMA.

230. See s. 34-II, PNDMA. Where more than three opinions exist on the amount of damages to be awarded, and no one opinion enjoys majority support, the vote for the opinion constituting the highest amount of damages (the most advantageous to the applicant) will be added to the votes for the opinion granting the next highest amount of damages (the second most advantageous), and then the second next highest and so on until a majority of the tribunal members' opinions are represented. See s. 34-III, PNDMA.

231. See s. 35, PNDMA.

232. See s. 36, PNDMA.

233. See s. 39-I, PNDMA. Whenever the parties reach an agreement during the arbitration process, the arbitration tribunal must prepare an agreement. See s. 38, PNDMA.

(*res judicata*); the arbitration decision may serve as legal title for enforcement and therefore be enforced in the same way as a court order.²³⁴

Arbitration council

The arbitration council was established by the TEPA pursuant to the PNDMA.²³⁵ The arbitration council consists of a chief and 7 to 11 other members. The chief-member of the council serves full time and must possess the qualification of attorney-at-law or judge.²³⁶ The other council members are handpicked by the TEPA Administrator from those individuals who possesses expertise in environmental protection, law, medicine, or other relevant disciplines, as well as from upright citizens.²³⁷

14.310

Environmental compacts

Industries may conclude environmental compacts (agreements) with local residents or local governments to prevent public nuisances.²³⁸ In the event of a breach, a notarised environmental compact may serve as legal title for enforcing those matters so specified therein without entering into mediation.²³⁹

14.315

Endangered Species

Wildlife conservation in Taiwan can be traced back to the Cultural Heritage Preservation Act (CHPA) of 1982. The so-called "natural culture landscapes" under the Act include "rare and valuable flora and fauna".²⁴⁰ The designated rare flora and fauna may not be "hunted, netted, fished, picked, cut, or otherwise destroyed" without permission.²⁴¹

14.320

The Wildlife Conservation Act (WLCA) of 1989, as amended in 1994, classified "wildlife" into two categories: conserved and general species. The protected species are further divided into three classes, *i.e.* endangered (meaning that their population size is at or below a critical level); rare and valuable (referring to endemic species or those with a very low population); and other conservation-deserving species.²⁴² All conserved species, unless mandated otherwise by laws or regulations, may not be "disturbed, abused, hunted, captured, traded, displaced, exhibited, possessed, imported, exported, fed or proliferated".²⁴³

234. See s. 39-III, PNDMA.

235. See s. 9, PNDMA.

236. See s. 11, PNDMA.

237. See s. 10, PNDMA.

238. See s. 30-II, PNDMA.

239. See s. 30-III, PNDMA.

240. See s. 49, CHPA. Eleven species of rare and valuable plants and 23 species of rare and valuable animals have been designated for protection. See *The Republic of China Yearbook 2001*, <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-6.htm>.

241. See s. 53, CHPA. A violator will be subject to imprisonment of no more than three years, detention, and / or a fine of no more than NT\$200,000. See s. 56, CHPA.

242. See ss. 3 and 4, WLCA.

243. See s. 16-I, WLCA.

Wildlife Conservation Advisory Committee

- 14.325 The WLCA mandates that the central responsible agency, *i.e.* the COA, establish a Wildlife Conservation Advisory Committee (WCAC) to classify and list conserved species, and to review these classifications annually.²⁴⁴ The WCAC is composed of 25 to 31 members. Among the members, scholars / experts and representatives of non-governmental organisations (NGOs) and aboriginal tribes must constitute no less than two-thirds of the total.²⁴⁵ In addition, the COA is empowered to set up a conservation donation account for receiving donations²⁴⁶ from the private sector, to issue wildlife conservation stamps,²⁴⁷ and to establish a conservation police force.²⁴⁸

Habitat conservation

- 14.330 Any construction project or other land use impacting on the major wildlife habitats designated by the COA must be conducted in the least invasive way, and may be required to undergo an EIA.²⁴⁹ Specific activities, such as the extraction of soil and stone, exploitation of minerals, and construction of roads and railways, can only be carried out after obtaining approval from the COA.²⁵⁰ Moreover, the COA may require the operators of an existing land use that has a significant impact on wildlife habitats to submit a remedial plan.²⁵¹ The COA must designate areas within the habitats that deserve special protection as wildlife refuges.²⁵² The COA may also go further and announce prohibited activities within a wildlife refuge, such as disturbing, abusing or hunting general species wildlife.²⁵³

Import and export regulations

- 14.335 No import or export of living wildlife or products from a conserved species is allowed without prior approval from the COA.²⁵⁴ To comply with the CITES, applicants for an import / export permit must submit to the COA the written permit issued by the exporting / importing country for the imported / exported species involved.²⁵⁵ In addition, the importer of non-native wildlife must submit an impact assessment report analysing the impact of the wildlife on domestic plants and animals.²⁵⁶

244. See s. 4-II, WLCA; s. 2, Implementation Rules of WLCA (10 / 06 / 1999).

245. See s. 5, WLCA; s. 3, Measures for Establishing WLCA (5 / 29 / 1998).

246. The donation is earmarked for wildlife conservation related purposes. See s. 3, Implementation Rules for WLCA for the details.

247. See s. 7, WLCA.

248. See s. 22-I, WLCA.

249. See s. 8-I, WLCA.

250. See s. 8-II, WLCA.

251. See s. 9, WLCA.

252. See s. 10-I, WLCA. As of May 2001, there are 13 wildlife refuges. See *The Republic of China Yearbook 2001*, Government Information Office website: <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-9.htm> (visited 4 August 2001) for the details.

253. See s. 10-I, WLCA. A violator can be subject to administrative fines of between NT\$50,000 to NT\$250,000. See s. 50-I, WLCA.

254. See s. 24, WLCA. Amendments to the WLCA, which will relax this regulation from all live wildlife to the live wildlife of conserved species only, are as at August 2001, pending in the LY.

255. See ss. 26 and 27, Implementation Rules of the WLCA.

256. See s. 27-I, WLCA. A violator will be punished by an administrative fine of NT\$60,000 to NT\$300,000. S. 49-I-4, WLCA.

Raising and breeding regulations

The WLCA requires all persons who have been engaged in raising or breeding conserved wildlife or who have possessed products of conserved species, prior to the announcement of relevant regulations by the COA, to register for inspection.²⁵⁷ These requirements are also applicable to those who legally raise or breed conserved species after the announcement of relevant regulations.²⁵⁸ Conserved wildlife and products of endangered species or rare and valuable species may not be displayed or exhibited in public areas without permission from the COA.²⁵⁹ Violators will face an imprisonment term of between six months to five years and fines ranging from NT\$300,000 to NT\$1,500,000.²⁶⁰

14.340

Penalties and enforcement

To facilitate enforcement, all the prohibited hunting methods for wildlife are enumerated, penalties for violations imposed, and destruction and / or confiscation of illicit hunting devices (such as traps) are detailed in the WLCA.²⁶¹ According to the Ministry of Justice, 175 criminal cases were brought to trial under the WLCA in 1999. These cases resulted in the sentencing of 189 persons.²⁶² In addition, the COA and the Ministry of the Interior have achieved remarkable success in their efforts to rehabilitate several endangered species, such as the Formosan landlocked salmon (*Oncorhynchus masou formosanus*) and the Formosan sika deer (*Cervus nippon taiouanus*).²⁶³

14.345

Soil and Water Conservation

In order to improve water and soil resource conservation and to promote sustainable land use, the Water and Soil Conservation Act (WSCA) of 1994 was enacted, and last amended in 2000. Under this Act, the managers, users and owners of lands within specific areas are obliged to conduct "water-and-soil conservation treatment and maintenance".²⁶⁴ Both types of conservation obligations are largely dependent on the ecological vulnerability of the lands.

14.350

257. See s. 31-I, WLCA.

258. See s. 31-II, WLCA.

259. See s. 35-I, WLCA.

260. See s. 40-I, WLCA.

261. See ss. 19, 49, and 52, WLCA.

262. See *The Republic of China Yearbook 2000*, Government Information Office website: <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-5.htm> (visited 4 August 2001) and <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-6.htm> for details. See also *The Republic of China Yearbook 1995*, pp. 246–248; *The Republic of China Yearbook 1996*, pp. 207–210 for more statistics.

263. See *The Republic of China Yearbook 1995*, pp. 248–249; Y. Wang et al., *The Ecological Study on the Released Herd of the Formosan Sika Deer at Kenting National Park* (National Park Administration, Ministry of the Interior, Conservation Report No. 93, June 1996).

264. These denote measures which utilise engineering, farming and planting as a means to conserve water and soil resources, preserve natural landscape, and prevent disasters such as erosion, landslides, and soil and stone flush-away. See s. 3, WSCA.

General water-and-soil conservation

14.355 The Water-and-Soil Conservation Technique Guidelines promulgated by the COA in 1986 (last amended in 2000) requires the management or land users respectively, in the following areas, to conduct water-and-soil conservation treatment and maintenance measures:²⁶⁵

1. river catchment areas;
2. farming, forestry, fishery and livestock-raising lands;
3. mining, well-digging, soil and stone picking sites;
4. construction sites of railways or highways;
5. hillside or forest areas;
6. coastline, lakesides, damsides or banks of waterways;
7. deserts, beaches, and sand dunes; and
8. protected areas within urban planning zones.

A responsible agency having jurisdiction over these activities can only issue a permit for a proposed construction / utilisation if the COA approves the water-and-soil conservation plan proposed by the developers (managers, users or owners) of these lands. Whenever an EIA is required, the TEPA's EIA review conclusion must be submitted together with the proposed water-and-soil conservation plans to the COA.²⁶⁶

Special water-and-soil conservation

14.360 The following land areas are designated as special water-and-soil conservation areas:²⁶⁷

1. dam catchment areas;
2. major river catchment areas that deserve special protection;
3. coastlines, lake-sides and banks of waterway that deserve special protection;
4. sand dunes and beaches that suffer serious wind erosion;
5. steep hillsides that might endanger public safety; and
6. other areas that might have significant impact on water-and-soil conservation.

No development activity can be undertaken in special water-and-soil conservation areas unless: it concerns the vital construction of water resource conservation and it will only cause landform changes within a specified scale; or it concerns the development of a natural recreation area that has successfully passed an EIA review, and has been approved by the responsible central agency (COA).²⁶⁸

A recalcitrant violator of any conservation requirement which has resulted in catastrophic consequences may be punished by imprisonment of up to 12 years and subject to a fine of up to NT\$1,000,000.²⁶⁹

265. See s. 8, WSCA.

266. See ss. 12 and 13, WSCA.

267. See s. 16, WSCA.

268. See s. 19-II, WSCA.

269. See, e.g. s. 32-II, WSCA.

Heritage Preservation

In addition to the 13 wildlife refuges designated by the COA in accordance with the WLCA, the ROC government has designated six national parks,²⁷⁰ 19 nature reserves²⁷¹ and 35 natural forest reserves.²⁷² Together, these protected areas make up about 19 per cent of Taiwan's land.²⁷³ 14.365

National parks

In order to preserve the natural landscape, historical sites or recreational resources, the National Park Act (NPA) of 1972²⁷⁴ authorises the MOI to designate, upon approval by the EY, a national park.²⁷⁵ To minimise the impact of large crowds, a national park is divided into five management zones: general regulation, recreational, cultural and historical, scenic, and ecological protection zones.²⁷⁶ Entry to the ecological protection zones without permit from the MOI is prohibited.²⁷⁷ Repair or reconstruction of existing buildings or historical sites located within cultural and historical zones can only be conducted after having obtained a permit from the MOI.²⁷⁸ 14.370

Nature reserves

To preserve areas with representative ecosystems, unique geology or topography, or that have an enduring value for gene research, the Cultural Heritage Preservation Act (CHPA) of 1982, last amended in 2000, authorises the Ministry of Economic Affairs to designate such areas as nature reserves.²⁷⁹ No alteration or destruction of the original state of an area is allowed within a nature reserve.²⁸⁰ 14.375

Natural Forest Reserves

Although the COA has designated 35 forest reserves, they have yet to be mandated by law.²⁸¹ Forest reserves are national forest lands recognised as possessing unique natural 14.380

270. See *The Republic of China Yearbook 2001*, Government Information Office website: <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-9.htm> and <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-9.htm> (visited 4 August 2001) for the list of each of these reserves.

271. *Id.*

272. See s. 17, Forest Act and s. 10, Measures for Establishing and Managing Recreational Areas in Forest.

273. See *The Republic of China Yearbook: Taiwan 2001* (May 2001) for details. Government Information Office website: <http://www.gio.gov.tw/taiwan-website/5-gp/yearbook/chpt13-9.htm#12> (visited 4 August 2001). See s. 12, Wildlife Conservation Act. In addition, there are 12 coastal reserves designated according to administrative rules. The Ministry of the Interior has proposed a draft Coastal Management Act.

274. Draft amendments to the Act with harsher sanctions are pending in the LY at August 2001.

275. See ss. 6 and 7, NPA.

276. See s. 12, NPA.

277. See s. 19, NPA. A violator will be punished by administrative fines of no more than NT\$1,000. See s. 26, NPA.

278. See s. 15, NPA.

279. See s. 49, CHPA; ss. 69 and 72, Implementation Rules of the CHPA (2 / 22 / 1984). As most of the nature reserves are forests, they are under the management of the COA.

280. See s. 52, CHPA. However, no sanction is provided in the CHPA for a violation of this prohibition.

281. As a result, no sanction can be imposed upon a violator of various regulations adopted for preserving the reserves. See s. 17.1 of the pending Amendments to the Forest Act which will close this loophole.

characteristics. While these reserves are subject to the multiple-use policies of the forest, managers of these areas (mainly the Forest Bureau) are expected to emphasise their preservation over development. In the past, several forest reserves have been upgraded to nature reserves.

ENVIRONMENTAL ENFORCEMENT

- 14.385 Taiwan has modelled itself after the US in developing environmental enforcement mechanisms. The characteristics of "multiple initiation" and "gradual escalation" can be clearly observed in Taiwanese environmental law.

It is widely accepted that environmental enforcement is a shared responsibility between the various levels of government, even if the allocation of this responsibility among the levels of government is ambivalent and fluid. In practice, the TEPA has become increasingly active in taking actions against major polluters or directly handling large-scale disasters. Where no governments take action, private enforcement may be initiated under the "citizen suits" clauses in several environmental laws. Citizen suits are new additions to Taiwan's legal system.

Environmental violations commonly arise from non-compliance with regulatory standards, emergency orders issued by responsible agencies, or monitoring or inspection related requirements. A violator would normally first be subjected to an administrative penalty of a fine with a written order in which the details of the violation are indicated and the date for final compliance is set. Only if the violator fails to comply with the compliance order will the responsible agency impose a further administrative non-compliance penalty of "continuous daily fines," or order the suspension of the violator's operations or business, or revocation of the operation permit.²⁸² Criminal sanctions are reserved for the most recalcitrant and intentional violators only.²⁸³

282. See, e.g. s. 51, APCA which states that:

"Public or private premises violating Section 1 of Article 20 [emission standards]; Sections 1, 2 or 3 of Article 21 [monitoring requirements]; Article 23 [pollution control facilities requirements]; Section 1 of Article 24 [permit requirements]; Article 28 [permit requirement]; the total quantity of emissions and [emissions] concentration promulgated in accordance with Section 2 of Article 26; or regulations governing permits stipulated in accordance with Section 3 of Article 24 shall be fined between 20,000 NTD and 200,000 NTD. If the violating entity is an industrial or commercial facility or site, it shall be fined between 100,000 NTD and 1,000,000 NTD.

Premises which have been penalised in accordance with the preceding Section shall be subject to orders to comply within a specified time period; if the violation continues after the specified time period, continuous daily fines shall be imposed. Serious offenders may be ordered to suspend related operations or suspend business, and if necessary their operation permits may be revoked or they may be ordered to terminate all business activities."

283. See, e.g. s. 45-I, APCA:

"Persons responsible for the management of public or private premises that fail to comply with others to suspend related operations or suspend business as issued by the responsible agency in accordance with this Act shall be punished by imprisonment of up to one (1) year, penal labour, and / or a fine of between 200,000 NTD and 1,000,000 NTD."

Table 14.3 Environmental Inspection Statistics

Year	Inspection Manpower (persons)	Total Number of Inspections (times)	Total Cases of Fines (times)	Total Amount of Fines Collected (NT\$,1,000)	Collection Rates of Fines* (%)
1988	310	338,377	120,302	265,659	N/A
1989	654	519,833	182,826	346,610	N/A
1990	707	696,223	171,574	368,652	N/A
1991	691	692,564	170,892	595,368	N/A
1992	668	686,035	148,348	793,395	67.35
1993	663	594,640	126,325	717,342	77.75
1994	594	728,646	140,443	734,210	78.27
1995	565	627,650	146,526	707,752	68.84
1996	572	1,798,135	151,727	666,443	70.17
1997	625	1,488,496	117,953	753,244	74.06
1998	760	1,395,194	95,718	685,944	72.91
1999	713	1,158,590	89,973	642,704	88.14

* Collection rates of fines = Total amount of fines collected ÷ (Total amount of fines imposed – fines revoked as result of administrative appeals).

N/A = Not available.

Source: TEPA, *Yearbook of Environmental Protection Statistics for the Taiwan Area, the Republic of China 2000*, 1-27 (Taipei, 2000).

Administrative Enforcement

No detailed statistics on the various administrative enforcement of environmental laws are available. In the fiscal year 1999, a total of 713 inspectors employed by the TEPA and the responsible local agencies conducted a total of over 1.15 million inspections. This resulted in almost 90,000 cases of fines, with over NT\$640,000 collected. Most inspections (about 71 per cent) were dedicated to mobile air pollution sources.²⁸⁴ Table 14.3 provides the overall statistics for enforcement activities since 1988. Table 14.4 shows the breakdown of air pollution inspections. 14.39

Criminal Enforcement

Table 14.5 confirms the general impression that whenever a significant environmental non-compliance is referred to the public prosecutor, the suspect is very likely to be indicted. Table 14.6 shows the overall sentencing of environmental crimes in the high courts (courts of appeals); most convicted environmental criminals will serve a term of 14.39:

284. TEPA, n. 102 above, pp. 1-27.

Table 14.4 Air Pollution Inspection Statistics

Year	Stationary Sources		Mobile Sources	
	Number of Inspections	Number of OC Issued	Number of Inspections	Number of OC Issued
1988	22,719	2,843	192,707	38,973
1989	32,549	4,985	328,412	55,171
1990	42,526	5,252	458,345	71,888
1991	41,470	5,784	467,240	79,692
1992	46,016	4,891	455,222	67,149
1993	51,836	3,575	355,498	46,509
1994	42,040	3,089	472,349	48,268
1995	40,420	2,525	323,941	30,472
1996	63,694	2,162	1,513,414	45,918
1997	62,138	2,305	1,121,644	29,291
1998	60,580	2,944	993,114	32,973
1999	63,333	2,680	846,444	22,379

OC: Order of Compliance.

Source: TEPA, *Yearbook of Environmental Protection Statistics for the Taiwan Area, the Republic of China 2000*, 1-7 (Taipei, 2000).

Table 14.5 Investigation of Environmental Crimes: Public Prosecutor Office, District Court

Year	Total Cases Closed	Results				Others
		Indictment		Charge Dropped		
		Cases	Percentage	Cases	Percentage	
1992	3	3	100%	0	0%	0
1993	9	9	100%	0	0%	0
1994	45	38	82.61%	6	15.22%	1
1995	67	56	83.58%	6	8.96%	5
1996	100	76	73.21%	19	21.43%	5
1997	83	60	72.41%	11	13.79%	12
1998	126	104	81.62%	11	10.29%	11
1999	83	60	70.09%	10	14.95%	13
2000*	282	210	74.46%	43	15.24%	29

* The statistics cover up to 30 June 2000.

Source: TEPA, *Yearbook of Environmental Protection Statistics for the Taiwan Area, the Republic of China 2000*, 2-272 (Table 7-16) (December 2000). Environmental Protection Administration website, <http://www.epa.gov.tw/epalaw/index.htm> (visited 4 August 2001).

Table 14.6 Sentencing in Environmental Crimes

Year	Total Cases	Number of Criminals						
		Imprisonment				Penal Labour	Fine	Judged Not Guilty
		2 - 6 months	6 - 12 months	1 - 2 years	2 - 3 years			
1992	0	0	0	0	0	0	0	0
1993	9	6	0	0	0	1	1	1
1994	15	10	1	0	0	5	0	0
1995	46	39	0	0	0	7	1	1
1996	76	42	1	0	0	23	11	9
1997	43	25	0	0	0	11	5	4
1998	58	21	4	3	0	21	9	1
1999	71	34	3	0	0	25	7	3
2000*	76	18	7	49	2	5	2	10

* The statistics cover up to 30 June 2000.

Source: TEPA, *Yearbook of Environmental Protection Statistics for the Taiwan Area, the Republic of China 2000*, 2-274 (Table 7-17) (December 2000). Environmental Protection Administration website: <http://www.epa.gov.tw/epalaw/index.htm> (visited 4 August 2001).

imprisonment of between two to six months. Table 14.7 shows the indictment rates and guilty rates for environmental crimes under each of the major environmental laws. Whenever a suspect is indicted by the public prosecutor, they are most likely to be found guilty in the high courts. Table 14.8 summarises the recent criminal enforcement activity under the WLCA.

In Taiwan, environmental criminal cases are referred to a public prosecutor for investigation by a competent administrative agency (mainly the TEPA) or by a citizen's petition. A public prosecutor may also voluntarily investigate any case that comes to their attention. After having conducted his / her investigations, the public prosecutor may opt to indict the suspect and refer the case to the court for trial, or to drop the charges and close the case. There are no attorneys in the TEPA. All public prosecutors are under the administration of the Ministry of Justice.

Citizen Suits

Article 74 of the 1999 APCA Amendments introduced, for the first time, a citizen suits clause in Taiwan. Article 34.1 of the 2000 WDA Amendments, Article 49 of the 2000 SUWPRA and Article 59 of the 2000 MPCA Amendments followed the APCA and likewise introduced these suits. Citizen suits are innovations of US environmental law. Although there are minor differences in wording between the sections, Article 74 of the APCA serves as a useful example for analysis:

14.4

Table 14.7 Indictment Rates and Guilty Rates for Environmental Criminal Cases

Year	EIAA		APCA		WPCA		TCSCA		DWMA		EACA		WDA	
	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)	Indictment (cases)	Guilty (persons)
1995	-	-	6/6 100%	8/8 100%	50/61 81.97%	39/40 97.5%	-	-	-	-	-	-	-	-
1996	1/3 33.33%	-	2/2 100%	2/2 100%	72/92 78.26%	75/84 89.28%	-	-	1/3 33.33%	-	-	-	-	-
1997	0/1 0%	-	2/2 100%	1/1 100%	54/79 72.15%	39/43 90.69%	-	-	1/1 100%	1/1 100%	-	-	-	-
1998	-	-	4/6 66.67%	3/3 100%	98/118 83.05%	54/55 98.18%	-	-	2/2 100%	1/1 100%	-	-	-	-
1999	-	-	6/16 37.5%	1/1 100%	54/66 81.81%	68/71 95.78%	-	-	0/1 0%	-	-	-	-	-
2000*	-	-	5/11 54.45%	6/6 100%	18/25 72%	21/24 87.5%	0/1 0%	-	0/1 0%	-	3/3 100%	2/2 100%	184/241 76.35%	54/61 88.52%
Total	1/4 25%	-	25/43 58.14%	21/21 100%	349/441 79.14%	296/317 93.38%	0/1 0%	-	4/8 50%	2/2 100%	3/3 100%	2/2 100%	184/241 76.35%	54/61 88.52%

* The statistics cover up to 30 June 2000.

Source: Department of Statistics, Ministry of Justice, Public Prosecutor's Office of the Taiwan High Court. Environmental Protection Administration website: <http://www.epa.gov.tw/epalaw/index.htm> (visited 4 August 2001).

Table 14.8 Criminal Enforcement Under WLCA

Enforcement Activities Year	Investigation Phase				
	Total Cases Investigated	Cases Prosecuted	Cases Submitted for Summary Conviction	Cases Acquitted	Others
1994	253	119	2	118	14
1995	135	87	0	40	8
1996	218	155	4	42	17
1997	248	194	2	37	12
1998	223	142	25	41	15
1999	239	123	61	48	7
2000	246	125	62	53	6

Year	Total Cases	Number of Criminals					
		Imprisonment			Penal Labour	Fine	Judged not Guilty
		2 ~ 6 months	6 ~ 12 months	1 ~ 2 years			
1994	123	87	16	0	25	10	11
1995	88	48	22	2	14	6	13
1996	109	47	54	8	2	3	10
1997	190	68	120	9	1	1	24
1998	149	50	86	12	4	0	21
1999	175	55	106	7	14	5	20
2000	187	71	103	9	4	2	19

Source: Department of Statistics, Ministry of Justice (provided on request on 29 May 2001).

"In the event that a responsible agency neglects to enforce against public or private premises that is in violation of the provisions in this Act or relevant regulations authorised and promulgated in accordance with this Act, the injured citizen or public interest group may record specific instances of [regulatory enforcement] neglect and serve a written notification to the responsible agency at issue. If within sixty (60) days of being served the written notification, the responsible agency has still not taken enforcement action in accordance with law, the citizen may directly bring a lawsuit in an administrative court against the responsible agency at issue for neglecting implementing duties, and request a verdict ordering the responsible agency to enforce relevant laws.

Upon arriving at a verdict prescribed in the preceding Section, the administrative court may pursuant to powers vested in his or her office order the accused agency to pay appropriate attorney fees, fees for monitoring and expert testimony, or other litigation costs to the plaintiffs that have made substantial contributions to the protection of air quality.

The format of the written notification mentioned in Section 1 shall be promulgated by the responsible central agency in consultation with other relevant agencies."

Citizen suits in Taiwan, unlike those in the US,²⁸⁵ are against the responsible agency only. No citizen suits against polluters are allowed. Also, what constitutes agency negligence in enforcing against a polluter may not be easy to determine as it is commonly understood that a responsible agency must have some discretion in law enforcement. Accordingly, the US citizen suits against the administrator of the EPA are limited to the performance of their non-discretionary duties. Although the section above-cited grants only *the injured citizen(s) and / or public interest group(s)* standing to sue (the responsible agency), one may interpret the wording flexibly to allow any person, or a group of persons, who might be affected by the pollution at issue. The injured citizen(s) and / or public interest group(s) may bring about an administrative suit *without first exhausting administrative remedies*, i.e. bring an administrative appeal to the superior agency of the responsible agency at issue. This has brought about a significant breakthrough in Taiwan. Finally, citizen suits by nature are actions for effecting action²⁸⁶ and / or payment²⁸⁷ by the (responsible) agency.

Administrative Court Decisions Review

- 14.405 As indicated earlier, environmental law in Taiwan is mainly administrative law. A comprehensive understanding of the enforcement of environmental law must therefore take Administrative Court decisions into consideration. Environmental cases make up a small percentage of the decisions rendered by the administrative courts. The scarcity of such decisions can partly be attributed to the blank authorisations contained in environmental statutes that have served to provide substantially limitless discretion to the TEPA in rule making, and partly because the APA has just come into force on 1 January 2001. Table 14.9

285. See, e.g. Clean Air Act s. 304, 42 USC s. 7604(a)(1) and (2)(1982); Clean Water Act s. 505, 33 USC s. 1365(a)(1) and (2)(1982).

286. See s. 5-II, Administrative Litigation Act of 2000:

"A person suffering damages to his rights or legal interests due to a dismissal by a central or local government agency of an application duly submitted by the person in accordance with the law, and having exhausted the recourse of administrative appeal may initiate an action in the high administrative court to order said agency to take an administrative act or an administrative act of specific content."

287. See s. 8-I, Administrative Litigation Act of 2000:

"An action for effecting payments with respect to payments in property interests due to certain reasons arising from the public law, or for payments in non-property interests other than a petition for taking an administrative act, may be initiated by a person against a central or local government agency. The same shall apply to payments arising from public law contracts."

Table 14.9 Environmental Decisions* by the Administrative Court**

Year	Number of APCA and WPCA Cases	% of Total Decisions Rendered	Result of Litigation	
			Appeal Rejected % (number)	Decision Reversed % (number)
1981	6	0.43%	100% (6)	0% (0)
1982	10	0.61%	100% (10)	0% (0)
1983	12	0.69%	91.67% (11)	8.33% (1)
1984	15	0.88%	100% (15)	0% (0)
1985	59	2.80%	74.75% (49)	15.25% (10)
1986	36	1.46%	97.22% (35)	2.78% (1)
1987	52	2.30%	94.23% (49)	5.77% (3)
1988	118	5.13%	61.61% (69)	38.39% (43)
1989	313	11.54%	36.10% (113)	63.90% (200)
1990	218	10.40%	66.97% (146)	33.03% (72)
1991	138	5.51%	94.93% (131)	5.07% (7)
1992	186	6.66%	96.24% (179)	3.76% (7)
1993	149	5.08%	83.89% (125)	16.11% (24)
1994	7	0.24%	71.43% (5)	28.75% (2)
1995	139	4.15%	88.48% (123)	5.04% (7)
1996	91	2.75%	83.52% (76)	16.48% (15)
1997	71	2.13%	91.55% (65)	8.45% (6)
1998	43	1.52%	95.35% (41)	4.65% (2)
1999	31	0.71%	93.55% (29)	6.45% (2)
2000	74	1.27%	85.14% (63)	14.86% (11)

* Statistics relate to APCA and WPCA cases only.

** The Administrative Court became the Supreme Administrative Court on 1 July 2000.

Source: Judicial Yuan, Analysis of Judicial Cases (1981), 395 and 407 (June 1983); *Id.*, 1983, at 434, 438, 447, 451 (June 1984); *Id.*, 1984, at 500, 504 (June 1985); *Id.*, 1985, at 475 (1986); *Id.*, 1986, at 491, 496 (June 1987); *Id.*, 1988, at 471, 478, 486, 491 (1989); *Id.*, 1989, at 423, 435 (1990); *Id.*, 1991, at 535, 562 (1992); *Id.*, 1993, at 623, 640 (1994); data post 1995 see "Analysis of Decisions Reversed", "Analysis of Retrial Decisions Reversed" and "Analysis of Finalized Decisions by Category" of the Administrative Court.

details the breakdown of the decisions concerning the APCA and the WPCA rendered by the Administrative Court, now the Supreme Administrative Court, since 1 July 2000.

The most important environmental decisions by the court can be summarised as follows:

1. An administrative orderliness penalty is a sanction for a past violation of an obligation, while an enforcement penalty is a means to force the polluting entity to fulfil their obligation in the future. Article 38 of the WPCA prescribes that a company found

guilty of violating relevant effluent standards will be subjected to an (initial) administrative fine of between NT\$60,000 and NT\$600,000, and will be given a period of time to improve or correct the violation. Continuous daily fines will be imposed should the company still be in violation when the time period specified for improvement / correction expires. Part I of this Article stipulates an administrative orderliness penalty, while the second part impose an administrative enforcement penalty. The imposition of continuous daily fines does not require the responsible agency to ascertain that the company is in violation of effluent standards.²⁸⁸

2. The administrative fines under the WPCA are administrative penalties and thus do not require proof of elements of intent or negligence.²⁸⁹ Yet, such an opinion has been substantially revised by Interpretation No. 275 of the Council of Grand Justices (8 March 1991) which held that to be subject to administrative penalties, one must be, at least, negligent. When a statute imposes administrative penalties merely for violating prohibitions or obligations of action without requiring occurrence of damage or danger, the violator *is assumed to be guilty* of negligence.

3. As long as the fine imposed does not exceed the statutory maximum, a regulatory agency enjoys full discretion in assessing the amount and may disregard the discretion guidelines issued by the regulatory agency.²⁹⁰

4. The separate imposition of a penalty by an environmental regulatory agency and a national park administrative agency, pursuant to different statutes,²⁹¹ against a particular stationary source (a power plant) for the same violation (discharging waste water not in compliance with the applicable effluent standards) does not constitute a violation of *ne bis in idem*. This is because the legal interests protected in these statutes are different.²⁹² An industrial source found discharging effluent from three discharge points in violation of effluent standards will be deemed to have committed three separate offences and will be subjected to three different sanctions.²⁹³

288. See ACD No. 257 (2 / 4 / 1994), reprinted in Judicial Yuan, (May 1996) 14 *Essentials of the Administrative Court's Decisions* 847; ACD No. 2330 (10 / 29 / 1994), *Id.* at 849.

289. See, e.g. ACD No. 597 (1985); ACD No. 1285 (1987).

290. See ACD No. 1235 (1990).

291. See s. 9-I, WPCA (1983); ss. 5-III and 25, NPA (behaviour resulting in the pollution of either air or water quality is prohibited in a national park).

292. ACD No. 19 (1989). One can easily challenge this decision by questioning whether the interests protected in the statutes involved are really different.

No statutes deal with the problem of concurrent administrative sanctions. A draft of the Administrative Wrongs Punishment Act (s. 23) proposed by scholars prescribes that a violator shall be subject to the statute that has the higher maximum administrative penalties, and the penalties assessed shall not be lower than the lowest minimum penalties prescribed in the statute which has the lower maximum penalties. See Y. Liao, *A Study on the Punishments for Administrative Wrongs* 356, (1990).

293. See, e.g. ACD No. 36 (1 / 16 / 1998), reprinted in (December 2000) 18 *Essentials of the Administrative Court's Decisions* 817.

For contradictory opinions, see, e.g. ACD No. 1309 (5 / 27 / 1997), reprinted in (June 1999) 17 *Essentials of the Administrative Court's Decisions* 915 (An industrial source discharging effluent from several discharge points at the same time will be regarded as one polluting behaviour and can only be subject to one sanction).

5. The time period imposed for final compliance by a non-complying entity must be feasible. This means that judgments based on general experience will be used to evaluate what is perceived to be sufficient time for the violators to accomplish the required improvements.²⁹⁴

6. Effluent standards must be promulgated by public notice, rather than being circulated *post facto* by interpretive rules.²⁹⁵ Effective as of 1 January 2001, the APA requires that all administrative rules carrying binding effect on the general public, such as emission standards under the APCA and effluent standards under the WPCA, must be promulgated pursuant to specific authorisation of law and undergo notice-and-comment procedures.²⁹⁶

CONCLUSION

After decades of hard work focused on achieving economic prosperity, citizens living in Taiwan have gradually become more sensitive to a fundamental question of human life. That is, what quality of life is worth my daily struggle? Henry David Thoreau once said that he "would rather sit on a pumpkin and have it all to [him]self, than be crowded on a velvet cushion".²⁹⁷ At what point do the material pursuits of modern life and the environmental impacts of those pursuits make those in Taiwan feel too "crowded"? Are we truly complacent about endless material satisfaction at the cost of the natural environment? Or shall we learn, as our ancestors did, how to temper our material ambitions and maintain a more harmonious relationship with nature?²⁹⁸

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The unprecedented large scale mudslide caused by heavy rain brought by Typhoon Toraji at the end of July 2001 buried several villages in Nantou and Hualien counties and resulted in a total death of more than 90 people with more than 130 missing. These and other less prominent events have clearly signalled that Taiwan's fragile ecosystem can no longer sustain the endless development demanded by the Taiwanese people.

294. See, e.g. ACD No. 1501 (1989), ACD No. 1654 (1989). One Administrative Court decision revoked 200 agency decisions in 1989 on the basis that the final compliance periods were not feasible. See Table 14.9. However, it should be noted that this decision may no longer be applicable because Art. 55 of the WPCA Amendments of 1991 clearly prescribes that the time period specified under the Act for improvement cannot exceed 90 days.

295. ACD No. 977 (4 / 23 / 1997), reprinted in (June 1999) 17 *Essentials of the Administrative Court's Decisions* 925.

296. See s. 150, APA.

297. Henry David Thoreau, *Walden* 37 (1854) (New Jersey: Princeton University Press, 1989).

298. The author is emphasising here the well-documented respect in traditional China for humankind's impacts on the environment. The legal philosopher *Han Fei Tse* (d 233 BC) indicated in his writings that Yin Dynasty law specified that those littering certain public areas would have their hands amputated. It is not the author's intent, however, to generalise with respect to notions of harmony in the relationship between ancient Chinese and the environment. In that regard, readers may be interested to read Wei-Ming Tu, "The Continuity of Being: Chinese Visions of Nature," *Nature in Asian Traditions of Thought: Essays in Environmental Philosophy* (New York: State University of New York Press, 1989).

There is much work to be done before Taiwan's environmental regulatory framework is a primary tool for environmental protection of the island. Admittedly, Taiwan's environmental framework is one of the most comprehensive, readily accessible, and aggressive in scope in the region. However, in order to improve the quality and efficacy of the environmental laws, to establish a coherent regulatory philosophy, to close the various loopholes, and to avoid unintended inconsistencies or contradictions between provisions, Taiwan's administrative officials must recognise that environmental law, like environmental engineering, is an established discipline of knowledge. It is also important to know that consistency, predictability and transparency of legal systems is greatly valued in the global marketplace. Without the participation of environmental lawyers in the development and implementation of environmental laws, the legal regime simply cannot give effect to the environmental policies envisioned. In addition, judges (especially those serving in Administrative Courts) should be aware of the general public's ardent expectation for reforms facilitating, among other things, more active citizen participation in the formation of environmental law and policy. The recent establishment of post-graduate law programmes²⁹⁹ in law schools and the diversification of selection channels for Administrative Court judges³⁰⁰ are good methods for facilitating the achievement of this goal. If Taiwan wishes to truly invest in environmental capacity building for future generations, the next policy initiatives should include adding environmental law as a subject in the national Bar examination and institutionalising continuing legal education programmes for judges.

Though the government's selective enforcement policy seems have met with some success, it still suffers the defect of encouraging opportunists and therefore hindering the long-term establishment of the rule of law. To effectively strengthen and make more consistent the enforcement of law, adequate incentives and necessary security should be provided to public-minded citizens that would encourage these citizens to notify specified authorities of pollution events or related violations. A clearer and more reasonable re-delineation of jurisdiction among the central and local governments would also enhance the efficacy of environmental law enforcement activities. Additionally, to build sufficient government capacity for needed environmental protection efforts, a ministry-level environmental organisation with an integrated administration for pollution control and nature conservation should be an integral part of a government restructure / reorganisation plan.³⁰¹

299. Until about two years ago, law schools in Taiwan offered only undergraduate level studies. Law students, like other undergraduates, were selected through the annual joint entrance examination.

300. Since 1999, professors and researchers of public law, senior civil servants in charge of legal affairs, and members of the private Bar have been eligible to serve as judges of high administrative courts through a competitive selection process as well as through the traditional Bar examination route. See s. 17-III, Organic Act for the Administrative Court (1999).

301. See Dennis T. Tang, *A Study on Reorganising Functions Concerning Nature Conservation Among Central Agencies* (November 1998) pp. 265-288.