NEW ZEALAND'S RESOURCE MANAGEMENT ACT – LESSON FOR HONG KONG?

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Abstract:

The environmental management system in Hong Kong has many problems: executive departments are confused with lines of responsibilities; legislations are diffuse and sectoral; and policies are conflicting with each other in certain contexts. This paper, focusing on pollution control, thereby, contends that in order to better protect the environment in Hong Kong, more integration and co-ordination within the system is desirable.

The paper is organized in four sections. Section one sets forth the background information. It provides an overview of the intellectual pedigree of integrated approach to pollution control and definitions of terms. Section two discusses the strengths and weaknesses of Hong Kong's current system. It analyzes different aspects of integration that deserve attention, including "instrumental integration" (i.e. harmonization of law and procedures), "organizational integration" (i.e. changes in administrative and policy-making arrangements), and "external integration" (i.e. integration of environmental consideration into all decision-making levels). It also examines broader issue of public participation. Section three draws upon the New Zeala nd experiences with its Resource Management Act as a model for Hong Kong. It explores the key components of integrated resource management in New Zealand and examines how the New Zealand Ministry for the Environment forged a consensus among diverse groups for the need to form an innovative and integrated environmental management system. The last section builds on earlier discussion and offers specific recommendations for Hong Kong to eradicate its weaknesses. Recommendations include integration of institutions, policies and laws and enhancement of public participation.

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I. PHILOSOPHY OF INTEGRATION

The idea of an integrated approach to pollution control has been under stood in widely differing ways ¹. A commonly accepted theory or definition exists neither in Hong Kong nor in other countries. Possible elements and even the essence of an integrated approach to pollution control are also highly controversial. As a result, the concept remains somewhat elusive and cannot be precisely defined².

So in this section, I will seek to provide an understanding of what an integrated approach to pollution control can entail. I will firstly provide an overview of the intellectual pedigree of an integrated approach to pollution control in which the need for integration has been argued. I will discuss the arguments put forward by the theorists who advocate such an approach. I will also highlight the practical limitations of the integrated approach as well as the counter arguments advanced by its skeptics. Then, I will attempt to define the term and examine different aspects of integrated system is achievable within human's capacity, but rather what means are currently available for attaining this goal.

A. Theory for an Integrated Approach to Pollution Control

The application of integrated approach to pollution control is a relatively recent development in environmental regulation. Calls for an integrated framework as alternative to pollution control are mainly driven by the growing dissatisfaction with the traditional non-integrated or fragmented approach to pollution control³. Traditional pollution control approach, as identified by an author, is

¹ A wide variety of measures can achieve integration and can be called an "integrated approach to pollution control". For examples, the Integrated Pollution Prevention and Control Directive proposed by the European Council, the Resource Management Act adopted in New Zealand, and Project XL promulgated in the United States. Terminology to "integration" varies from country to country as well. "Harmonization", "concentration" and "simplification" are often preferred to the term "integration".

 $^{^{2}}$ For the purpose of the discussion in this section, where the general philosophy of integration is being discussed, I will use the term "integrated approach to pollution control" as a general term referring the measures adopting the concept of "integration".

³See e.g., Frances Irwin, "Introduction to Integrated Pollution Control", Chapter 1 in Nigel Haigh and Frances Irwin (eds.), Integrated Pollution Control in Europe and North America (Washington D.C.: the Conservation Foundation and Bonn: the Institute for European Environmental Policy, 1990), 3 at 7-9 [hereinafter Irwin, Introduction to Integrated Pollution Control] (listing five disadvantages of fragmentation: i. unable to prevent or solve pollution problems rather than transferring them to other parts of the environment; ii. not cost-effective; iii. lacks of long-term priority-setting of environmental problems; iv. impedes cooperation between environmental and other policy sectors; and v. results in excessively complex and inconsistent administrative system); Frances Irwin, "An Integrated Framework for Preventing Pollution and Protecting the Environment" (1992) 22 Environmental Law 1 at 12-18 [hereinafter Irwin, Integrated Framework] (enumerating three extra disadvantages of fragmentation: i. fails to identify existing pollution problems; ii. ignores methods of prevention; and iii. fails to identify new and complex environmental problems); Lakshman Guruswamy, "Integrating Thoughtways: Re-opening of the Environmental Mind?" (1989) Wisconsin Law Review 463 at 472-476 [hereinafter Guruswamy, Integrating Thoughtways] (stating four defects of fragmented system: i. ignores the part played by inputs in the creation of residual pollutants; ii. ignores the part played by end products in the creation of residual pollutants; iii. considers each source of pollution in isolation; and iv. lacks economic efficiency); Lakshman Guruswamy, "Interacting Threats and Integrated Solutions for the Environment: Integration and Biocomplexity" (2001) 27 Ecology Law Quarterly 1191 at 1207-1212 [hereinafter Guruswamy, Integration and Biocomplexity] (arguing risk of a pollutant is not correctly assessed under fragmented approach); Bradford C. Mank, "The Environmental Protection Agency's Project XL and other Regulatory Reform Initiatives: the Need for Legislative Authorization" (1998) 25 Ecology Law Quarterly 1 at 7-9 (identifying four problems with single medium approach).

fragmented in at least three ways⁴. Firstly, the environment is thought of or treated as separate and distinct environmental media, resources and systems (air, water, land, ecosystem, wildlife, and etc)⁵. Secondly, the environment is often understood and dealt with separately from other sectors (economic, development, social, and etc)⁶. Thirdly, pollution control policies and regulations are traditionally focuses on alleviating the effects immediately and restrictively defined, rather than on the sources or causes of those effects⁷.

As seen, all of the above three ways of fragmentation recognize only inadequately or not at all the inter-connected and complexity of pollution problem. Several problems of the fragmented approach can be distinguished:

a. Ignoring cross-media effects

Inherently, the environmental is a broad and all-encompassing concept. It is a single and holistic system. It is all interconnected. Although for analytical and practical reasons it can be treated as having different dimensions, it is not artificially divided into the sectors of air, water and land. It should be recognized that things occurring in one medium can affect things occurring in the other media, and pollutants can move from one medium to the other media⁸. Ignoring the interconnectedness of the environment is problematic for two reasons.

Firstly, the immediate shortcoming of ignoring the repercussion of pollution problem to other environmental media is the cross-media shifting of pollution⁹. This means that the solution to a pollution problem in one environmental sector (e.g. water) may involve the intensification or displacement of pollution problems in other environmental sectors (e.g. air or land). Such impacts may not always be direct or immediately visible, and they may be cumulative, adding to the complexity of pollution problem. One frequently cited example of cross-media shifting of pollution is the requirement to install scrubbers in most utilities burning high sulphur coal to remove sulphur dioxide from flue gases under the US Clean Air Act¹⁰. The scrubbers, however, produced three to six tons of sludge for each ton of sulphur dioxide from the flue gases¹¹. As this example illustrates, the cross-media transfer of pollution can create new environmental problems. The strict pollution control measures in one medium, while limiting discharges into air, which possibly solving the immediate pollution problems within that medium, caused pollution problems in other media

⁴ See Lakshman Guruswamy, "Integrated Environmental Control: the Expanding Matrix" (1992) 22 *Environmental Law* 77 at 83 [hereinafter Guruswamy, Expanding Matrix].

⁵ Ibid.

⁶*Ibid*.

⁷ Ibid.

⁸ Barry G. Rabe, *Fragmentation and Integration in State Environmental Management* (Washington D.C.: the Conservation Foundation, 1986), at 3-4 (arguing the environment is a totality rather than a set of divisible components); Irwin, Integrated Framework, supra note 3, at 6-12 (presenting a theory of single environment); James E. Krier and Mark Brownstein, "On Integrated Pollution Control" (1992) 22 *Envir onmental Law* 119 at 122 (stating one of the conceptual roots of 'integrated pollution control' is grounded in the science of ecology that everything is connected to everything else in the environment); and Guruswamy, Integrating Thoughtways, supra note 3, at 509 (contending the environment should be viewed as an integrated and interconnected whole) and at n. 222 (provides a rich vein of literature that support this view).

 ⁹ This is actually accepted and understood widely as reflected in international conventions. See for example, Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), available at http://www.ospar.org/ (last visited on 30 March 2004).
 ¹⁰ Clean Air Act, 42 U.S.C. 7411 -7671q (1994). The Act provided that new coal -fired electricity generators should use

¹⁰ Clean Air Act, 42 U.S.C. 7411 -7671q (1994). The Act provided that new coal -fired electricity generators should use "the best technological system of continuous emission reduction". It was determined by the United States' Environmental Protection Department that this necessitated the use of scrubbers.

¹¹ Guruswamy, Integrating Thoughtways, supra note 3, at n. 22; and Guruswamy, Integration and Biocomplexity, supra note 3, at n. 76.

instead. Here, huge amount of sludge is created, which would have to be burned (air pollution) or buried (land pollution). As a result, the air pollution problem is not solved, but rather merely transferred to other media.

Based upon this premise, the supporters for an integrated approach to pollution control contend that pollution control regulations and policies should also be based upon a holistic view of the environment¹². However, many countries, including Hong Kong, while acknowledging the interconnected of the environment or the cross-shifting nature of pollution, have rarely taken this nature into account in creating the laws and programs dealing the environment. Predominantly, the traditional pollution control legislation and its associated institutional structures, in contrast, were developed in an additive way to address each environmental medium – air, water, and land – separately, resulting in fragmented media-specific laws, programs and associated institutions ¹³. This kind of fragmented system is not an efficient way of tackling pollution problems. It gives little regard to the possible consequences of imposing control on one medium in relation to others, which often result in transferring the pollutant among media mindlessly without solving the overall problem¹⁴.

Secondly, ignoring the interconnectedness of the environment makes it difficult to identify analyze and manage new and complex environmental problems¹⁵. Looking across different media and linking different environmental effects is necessary for identifying, analyzing and managing new and complex environmental problems. However, such a comprehensive mandate for assessing environmental effects comprehensively does not exist under a fragmented regime. Hence, new and more complex environmental problems can neither being precisely identified, nor fully analyzed under a narrowly focused fragmented approach to pollution control.

b. Ignoring cross-sector effects

Fragmented approach fails to recognize that everything in the environment is connected to something else in other sectors and vice versa. It ignores the needs to incorporate environmental considerations into socio-economic decision-making, particularly into the key sectors of agriculture, energy, transport and manufacturing. Integration across sectors enables decision-makers to consider the environmental effects against the socio-economic causes.

¹⁴ Richard Macrory, "The Scope of Environmental Law", Chapter 1 in Gerd Winter (ed.), *European Environmental Law: a Comparative Perspective* (Aldershot, Hants: Dartmouth, 1996), 3 at 4 (pointing out the fragmented controls may ignore or fail to consider the cross-media impact of control strategies); and also Guruswamy, Integration and Biocomplexity, supra note 3, at 1208 (arguing such transfer may create even greater problems in the medium to which the pollutants are moved); Mank, EPA's Project XL, supra note 3, at 7; Adrian Smith, *Integrated Pollution Control* (Aldershot, Hants: Ashgate Publishing Ltd., 1997) at 2 (arguing without overall strategy, single-medium controls can simply shunt polluting releases from one medium to another, according to whichever offers least regulatory resistance). ¹⁵ Irwin, Integrated Framework, supra note 3, at 16-17.

¹² Guruswamy, Integrating Thoughtways, *ibid.*, at 493.

¹³ See Eberhard Bohne et al, *The Evolution of Integrated Permitting and Inspections of Industrial Installations in the European Union: an Empirical Comparative Analysis of Existing and Emerging Integrated Permitting Procedures, Structures and Decisions in EU member states, the First Interim Report to the European Commission, 1998, at 3-4, 31-40 and Annex I (addressing the development of pollution control regulations in eight EU member states); Stuart Bell and Donald McGillivary, <i>Ball and Bell on Environmental Law: the Law and Policy relating to the Protection of the Environment* (London: Blackstone Press Limited, 2000) at 375-376 (addressing the development of the fragmented pollution control regulations and the responsible bodies in the United Kingdom); and Guruswamy, Integrating Thoughtways, ibid., at 476-492 (addressing the development of the fragmented pollution control regulations and the responsible bodies in the United States).

c. Tendency by firms to divert pollution

A fragmented approach encourages the use of management methods by firms, which divert rather than reduce pollutant emissions. Supporters of an integrated approach have contended that the tendency of firms under a fragmented approach is to divert pollutants toward the medium that is covered by the least stringent legislation or regulated by the least demanding regulator at any given time rather than to reduce the amount of emissions¹⁶. The supporters suggest that, on the other hand, if pollution control is based on a broader integrated ecological perspective, it might indicate that a particular pollutant be banned entirely or might ensure that it is sent to other medium that can best accommodate it¹⁷.

d. Complex administrative structure and heavy regulatory burdens

Fragmentation results in a complex administrative structure and a heavy regulatory burden. Linked to the previous points, the supporters for integrated approach suggest that there is a need to simplify the fragmented administrative system for environmental management ¹⁸. In many countries ¹⁹, different agencies are involved in the administration for pollution control in a single industrial process or different pollutant emission permits are required for discharges to each environment medium²⁰. It is also not uncommon in many countries that too many government bodies are involved in the consideration of environmental issues. This kind of multiple, fragmented and sometimes overlapping and inflexible, administrative system does not only increase the administrative costs and consume more times²¹ but also hinders the formulation and a coordinated and unified approach to environmental matters. Hence, supporters of an integrated approach argued for a more streamlined regime.

e. Others

The supporters for integrated approach also argue that the single medium control fosters "endof-pipe" pollution control techniques rather than encourages pollution prevention²². The traditional approach creates only the incentive to focus on the *effects* of pollution for reduction²³ rather than on the *causes* of pollution for prevention. They also suggest that integration would increase the ability

¹⁶ See, for example, Irwin, Introduction to Integrated Pollution Control, supra note 3, at 7.

¹⁷ See, for example, Krier & Brownstein, On Integrated Pollution Control, supra note 8, at 122.

¹⁸ See *Report of the Joint Project undertaken by The Conservation Foundation and Institute for European Environmental Policy* quoted in Irwin, Introduction to Integrated Pollution Control, supra note 3, at 8-9 (pointing out that the need to develop institutions better able to handle the interrelated nature of environmental problems was widely recognized).

¹⁹ For example, in Germany, its environmental law is not codified and only in part systematised.

 $^{^{20}}$ This is called the problem of "multiple permitting".

²¹ See Michael G. Faure, "Integrated Pollution Control Prevention and Control: an Economic Appraisal" in Chris Backes and Gerrit Betlem (eds.), *Integrated Pollution Prevention and Control: the EC Directive from a Comparative Legal and Economic Perspective* (London: Kluwer Law International Ltd., 1999), 93 at 102.

²² Mank, EPA's Project XL, supra note 3, at 7; Guruswamy, Integrating Thoughtways, supra note 3, at 5-7;

²³ The traditional system is often administrated on the principle of "pollute and cure". See Guruswamy, Expanding Matrix, supra note 4, at 84 and n.20

to set priorities, enhance efficiency²⁴ and the level of complementarity between environmental policy and other policy areas²⁵.

All the above problematic areas illustrate the limited capacity of a fragmented approach to approach to pollution control. In sum, the arguments and problems outlined above led to the justification that the environment should be regulated by a single integrated policy and integrated administrative structures, both on environmental and economic grounds, which is capable of dealing the environment as a whole, rather than by multiple fragmented policies directed at individual problems.

B. Skeptical views on an integrated approach to pollution control

Although recognition of the need for a better integrated, more comprehensive and better coordinate approach to pollution control is growing, there exist skeptics claiming that an integrated approach to pollution control is practically unachievable.

Arguments by skeptics

The logic of the integrated approach seems unassailable as it promises a complete ecological approach fit to the movement of pollution in the physical world²⁶. It considers the point where a pollutant enters the environment and then traces its movement throughout the entire ecological cycle. By identifying the environmental cycle of the pollutant, regulators are in a better position to know when and what type of intervention across all media is the best to deal with it. And then they can select the best available technology to prevent pollution and protect the environment and human health.

Despite its flawless logic, practical implementation of the integrated approach, however, has proven to be difficult. A major difficulty stems from the need to identify or predict, in practicable terms, the effects of a pollutant on all media of the environment²⁷. Charles Lindblom contends that precisely because everything is interconnected, the very enormity of the interconnected environment is beyond human capacity to control in one unified policy. He claims:

"[We] now understand that the environment is all interconnected. It is a system. We are deeply impressed as we have never been before with the interrelation of parts. Believing then, that everything is interconnected, we fall into the logical fallacy of believing the only way to improve those interconnections is to deal with them all at once.

²⁴ See Christopher Hilson, *Regulating Pollution: a UK and EC Perspective* (Oxford, Portland Oregon: Hart Publishing, 2000), at 112-113. The author argues that geographically uniform emission standards are not cost-effective for non-dangerous substances. Integrated approach to pollution control does vary emission standards for non-dangerous substances and is thus cost-effective in this sense.

 ²⁵ Andrew Gouldson and Joseph Murphy, *Regulatory Realities: the Implementations and Impact of Industrial Environmental Regulation* (London: Earthscan Publications Ltd., 1998), at 45.
 ²⁶ Contra Krier & Brownstein, On Integrated Pollution Control, supra note 8, at 124-125 (arguing that it is not at all

²⁷ Contra Krier & Brownstein, On Integrated Pollution Control, supra note 8, at 124-125 (arguing that it is not at all clear why the fragmented approach has to be radically transformed into an integrated approach before we can focus more attent ion on inputs, end products and cross-media effects. The existing fragmented approach has managed to make progress exactly along these lines. In addition, they argue the claims by the advocates for an integrated approach consist nothing but assertions. There is simply not enough evidence to show that the integrated approach would actually accomplish what its supporters say). ²⁷ Rod Barratt, *Integrated Pollution Control: Don't Get Caught Out by BAT – a Threat or Opportunity*? (Cheltenham:

²⁷ Rod Barratt, *Integrated Pollution Control: Don't Get Caught Out by BAT – a Threat or Opportunity?* (Cheltenham: Stanley Thornes (Publishers) Ltd., 1995), at 4.

Clearly, everything is connected. But because everything is interconnected, it is beyond our capacity to manipulate variables *comprehensively*. But because everything is interconnected, the whole of the environment problem is beyond our capacity to control in one *unified* policy." ²⁸

In his study on the theory of public administrative, Lindblom has suggested that a step-by-step approach will help to solve a complex problem better than a grand solution based upon the necessarily incomplete analysis offered by a comprehensive rationality decision making process. Steps include adopting a synoptic perception of a problem, collecting all relevant information, listing all related values in order of importance and exploring all relevant solutions after considering all relevant answers²⁹. According to Lindblom, comprehensive rationality is only possible when dealing with small-scale problems with a very limited number of variables³⁰.

Counter-argument

Clearly, the sheer magnitude and complexity of an integrated analysis does pose serious problems for its practical application. Linked to Lindblom's claims, even a supporter for integrated framework, Hersh, has also admitted that moving from single-medium to multi-media risk assessment presents a number of uncertainties that are yet to be resolved³¹. It is true, in practice, we will never have a plan that is the total answer, no matter how sophisticated our analysis of the issues might be. Circumstances will change over the life of the plan, as will people's desires and expectation. Thus, a truly and fully integration is an elusive ideal that is not obtainable.

However, "integration" and "comprehensiveness" are far from absolute, all-or-nothing concepts. Integration merely suggests some degree of weaving together or merging, while comprehensiveness refers to a wider scope, degree or content of consideration of matters or consequences. Simply because "integration" or "comprehensiveness" does not mean to include everything, the contention by Lindblom that unified or comprehensive environmental approach is impossible does not hold.

As a result, the question is not so much whether a comprehensive or integrated approach to pollution control is feasible or not, but whether and how a high degree of comprehensiveness or integration can be achieved.

C. Defining the Terms

The preceding discussion has outlined the theories for and advantages of an integrated approach to pollution control. But what would the approach be achieved in practice? In fact, while the concept of integration is prevalent worldwide³², the term is vague, ambiguous and ill defined. Many scholars, instead of defining the term precisely, prefer to describe it in a very broad manner. It has

 ²⁸ Charles E. Lindblom, "Incrementalism and Environmentalism", *Managing the Environment*, U.S. EPA, pp. 83-84, 1973 quoted in Krier and Brownstein, supra note 8, at 125.
 ²⁹ See Charles E. Lindblom, "The Science of 'Muddling Through'" (1959) 19 *Public Administration Review* 79, at 79-

²⁰ See Charles E. Lindblom, "The Science of 'Muddling Through'" (1959) 19 *Public Administration Review* 79, at 79-82. It is suggested that Lindblom has not changed his theory despite further study. See for reference, Charles E. Lindblom, "Still Muddling, Not Yet Through" (1979) 39 *Public Administration Review* 517.

³⁰ Lindblom (1959), *ibid*., at 80.

³¹ See Robert Hersh, "A Review of Integrated Pollution Control Efforts in Selected Countries" *Discussion Paper*, 97-15, at 7. Available at <u>http://www.rff.org/environment/reg_policy.htm</u> (last visited on 30 March 2004). ²² The concept of integrated approach to pollution control is prevalent and indeed been carried out in many countries.

²² The concept of integrated approach to pollution control is prevalent and indeed been carried out in many countries. For example, in the United States, New Zealand, United Kingdom, Germany, Belgium, Net herlands, Sweden, Japan and etc.

been described as "a general philosophy based on the premise that pollution problems should be addressed taking account of all three environmental media – air, land and water – in an integrated manner"³³ or "a range of organizational and legislative changes that enable institutions to deal with the connected nature of environmental problems"³⁴. Some scholars even avoid defining the term, choosing to merely describe the strategic principles of achieving it ³⁵.

Definitions by Organization for Economic Co-operation and Development

One of the most detailed definitions of an integrated approach to pollution control can be found in the recommendation adopted in 1991 by the Organization for Economic Co-operation and Development ("OECD")³⁶. Under the Recommendation, the OECD council proposed its member countries to adopt an integrated approach to pollution control, which is named the Integrated Pollution Prevention and Control ("IPPC"). The Recommendation defines IPPC as a practice that will "[take] into account the effects of activities and substances³⁷ on the environment as a whole and the whole commercial and environmental life cycles of substances when assessing the risks they pose and when developing and implementing controls to limit their releases"³⁸. The Recommendation goes further to discuss the basic principles of IPPC, stating the purpose of IPPC to be the prevention and minimization of the risk of harm to the environment taken as a whole 39 . More specifically, the important aspects of an integrated approach are said to include: consideration of the whole life cycle of substances and products⁴⁰; anticipation of the effects in all environmental media of substances and activities⁴¹; minimization of the quantity and harmfulness of waste⁴²; the use of one common means for estimating and comparing environmental problems⁴³; and the complementary use of effect-oriented measures⁴⁴. The instruments to implement the integrated approach consist of research, planning, eco-audits, and economic instruments⁴⁵.

Definition by European Council

³³ Neil Emmott, "An overview of the IPPC Directive and its Development" in Backes and Betlem (eds.), supra note 21, 23, at 24.

 ²³ See the definition used in Brussels Symposium on Integrated Pollution Control, convened in November 1988, quoted in Irwin, Introduction to Integrated Pollution Control, supra note 3, at 9.

³⁵ Guruswamy, Integrating Thoughtways, supra note 3, at 493. See also Irwin, Introduction to Integrated Pollution Control, supra note 3, at 9-11 (pointing out the project participants at the Brussels symposium did not try to agree on precise definition but merely discussed how integrated pollution control might be achieved).

³⁶ OECD (1991), *Recommendation of the Council on Integrated Pollution Prevention and Control*, C(90)164/FINAL, 31st January 1991 [hereinafter OECD, Recommendation]. For a brief commentary on the Recommendation, see Neil Emmott and Nigel Haigh, "Integrated Pollution Prevention and Control: UK and EC approaches and possible next steps" (1996) 8 *Journal of Environmental Law* 301, at 301-302; and Philippe Sands, "The 'Greening' of International Law: Emerging Principles and Rules" (1994) 1 *Indiana Journal of Global Legal Studies* 293, at 313-316 (pointing out the Recommendation is the first (non-binding) international agreement sets out a detailed approach to implementing integration pollution prevention and control).

 $^{^{37}}$ See OECD, Recommendation, *Ibid.*, Appendix, para 1. The effects of activities and substances include that on all environmental media (air, water, and soil), on the living organisms (including people), and on the stock of cultural and aesthetic assets.

 $[\]frac{38}{5}$ *Ibid.*, Article I (a).

³⁹*Ibid.*, Appendix, para 1.

⁴⁰ *Ibid.*, Appendix, para 1(a).

⁴¹ *Ibid.*, Appendix, para 1(b).

²*Ibid.*, Appendix, para 1(c).

⁴³*Ibid.*, Appendix, para 1(d).

⁴⁴*Ibid.*, Appendix, para 1(e).

⁴⁵ *Ibid.*, Appendix, para 6.

Yet, on the other hand, the concept of integrated approach has been narrowly construed. It has been referred primarily to a multi-media permit system applying only to specific industrial facilities. The EC Directive on Integrated Pollution Prevention and Control⁴⁶ is one of the examples of this interpretation, being concerned only with the integrated control of polluting emissions and other environmental impacts from specific industrial activities.

No consistent definition

As discussed above, there is no consistent definition to an integrated approach to pollution control. In fact, it is an elastic concept that embodies a number of meanings. It has been pointed out that there exists both a broad sense of integrated approach and a narrow one⁴⁷. The approach is, in a narrow sense, any approach which takes into account all environmental media simultaneously or facilitates this process when attempting to reduce, for instance, releases of pollutants by economic activities, exposures to hazardous substances or consumptions of natural resource⁴⁸. The wider implication of this approach is, however, closely related to concept of sustainable development, as it promotes the concept of economic progress with reduced resource consumption and pollution⁴⁹. Similarly, the concept of integration can also be practically achieved by a wide variety of measures. In sum, it is very difficult, if not impossible, to answer directly what is an integrated approach to pollution control and how the approach is to be achieved. As a result, perhaps, the question is not so much what is an integrated approach to pollution control, but what an integrated approach can entail.

What an integrated approach can entail

We may consider an example of a new factory wanting to set up in a region. It emits pollutant A which by itself is safe but has the potential to combine lethally with pollutant B in the area. There is a technology available to reduce the emissions of pollutant A to a safe level. An integrated approach, in its narrower sense, would take into account all environmental media simultaneously to decide which medium is the most environmentally and economically efficient one for the technology to apply. An integrated approach, in broader sense, would further require the decisionmaker to consider whether other factories contributing pollutant B can reduce their emissions more cheaply by other technology, whether the new factory contribute greater social and economic benefit then the existing one or vice versa and whether the technology is so expensive that if it were required to be used the new factory would be forced to move to another area.

To date, the implementation of an integrated approach has usually been associated with the adoption of integrated industrial permits⁵⁰, which looks at the discharges of firms to each medium

⁴⁶ Council Directive 96/61/EC of 24 September 1996.

⁴⁷ Irwin, Introduction to Integrated Pollution Control, supra note 3, at 9-10; and Emmott and Haigh, supra note 36, at 301.

⁴⁸ See OECD (1996), Integrated Pollution Prevention and Control: the Status of Member Country Implementation of Council Recommendation C(90)164/FINAL, Environment Monograph No. 119, OCDE/GD(96)44, 13 th March 1996, at 7. ⁴⁹ Ibid.

⁵⁰ For examples: the Environmental Protection Act 1990 of the United Kingdom; the Pollution Prevention and Control Act 1999 of the United Kingdom; the Environmental Protection Act 1969 together with the Environmental Protection Ordinance 1988 of Sweden; the Environmental Management Act 1993 together with the Pollution of Surface Waters Act 1969 of Netherlands; the Integrated Pollution Prevention and Control ("IPPC") Act 2001 of Estonia; the IPPC Decree 2001 of Hungary; the Law on Pollution 2001 of Latvia; the IPPC Act of February 2002 of Lithuania; the IPPC

separately and then arrives at an overall judgment by taking the environment as a whole. This is largely due to the fact that industrial discharges are the major sources of pollution risks in many countries⁵¹. However, pollution problems are of a much broader nature, including non-point source pollution and other types of environmentally degrading activities. Without doubt, permitting regulations to industrial installations are the "backbones" of environmental law. In order to have a sustainable pollution control strategy, a fully integrated approach should not be confined to an integrated industrial permitting regulation. Integration should also be carried out comprehensively in different dimensions.

D. Three Dimensions of Integration⁵²

Having explored the different definition of an integrated approach to pollution control, the following paragraphs identifies possible dimension of it. Since there is not definite structure or a fixed model of an integrated approach, integration can occur in different level and exist in different ways. Several policy instruments and legal mechanisms may facilitate integration. Three dimensions of integration will be identified and discussed below.

Substantive integration a.

Substantive integration based on the premise that legislation should provide the basic framework for integration. It concerns both the questions of how the existing laws and procedures shall be combined and how can these parts be combined.

Faure identifies "harmonization of laws and procedures" as a formal means to achieve integration⁵³. Harmonization of laws and procedures, in the author's sense, refers also to restructuring of existing laws and procedures, which can be equally referred to as substantive integration. The author contends that the need for harmonization/substantive integration is evident as the traditional legislations were often developed in an additive way, whereby laws were introduced when new individual sectoral environmental problems emerged⁵⁴. Harmonization has a variety of degrees⁵⁵. In its strong sense, all separate sectoral environmental laws are brought together in one legislative document, forming a generalized environmental protection act to provide for general rules with respect to the licensing and standard-setting procedures, and enforcement applying to all environmental sectors⁵⁶. In its weak sense, it may merely involve restructuring of existing procedures, forming a general act to provide similar procedures, appeals and enforcement mechanisms, but the various sectoral acts remaining in existence 57.

Regulation of June 2002 of Malta; the Emergency Ordinance No. 34/2002 on IPPC of Romania; the Environment Protection Act of September 2002 of Bulgaria; and the IPPC law 2002 of Cyprus.

⁵¹ See Bohne, supra note 13, at 6-9.

⁵² It should be noted that these three dimensions of integration is not a universally accepted way to categorize dimensions of integration. There has been different other ways to categorize dimensions of integration. Contra Uwe M. Erling, "Approaches to Integrated Pollution Control in the United States and the European Union" (2001) 15 Tulane Environmental Law Journal 1, at 8-11 (identifying four basic types of internal integration: substantive integration, procedural integration, organization integration and product-oriented integration). ⁵³ Michael G. Faure, "The Harmonization, Codification and Integration of Environmental Law: A Search for

Definitions" [2000] *European Environmental Law Review* 174, at 175-176. ⁵⁴ For examples: the establishment of the UK Alkali Inspectorate and the enactment of the UK Alkali Act to deal with

the problem of noxious fume emission under the Alkali in the United Kingdom; and the enacted of the US Clean Air Act to deal with the problem of the use of high sulphur coal in scrubbers in the United States. ⁵⁵ *Ibid.*, at 175-176.

⁵⁶ *Ibid.*, at 176.

⁵⁷ *Ibid.*, at 176. The same author points out that this was typically the first step taken in the Netherlands.

However, as also admitted by Faure, the "form" of the legislation does not in itself necessitate integration. He points out that even if separate licences and procedures remain, the goal of integration can still be achieved only if, the different procedures and licences are coordinated⁵⁸. However, this might be more difficult ⁵⁹. Harmonization will ease the accomplishment of integration. It will be far easier to incorporate a consistent administration under a general act than under a loose-collection of single medium acts⁶⁰.

b. Organizational integration

Changes in administrative arrangements should also be made to facilitate integration. The need for the changes becomes evident as separate agencies are, traditionally, often developed for each sector of society – transportation, agriculture, forestry, mineral rights, development, planning, health, and natural resources. These agencies exercise jurisdiction over environmental issues and their jurisdiction usually overlaps. As the agencies grow in size and become more fragmented and compartmentalized, an uncoordinated approach brings about ineffective enforcement⁶¹. Bohne et al distinguish this dimension as "organizational integration"⁶². In the authors' theory, organizational integration is of three types, namely, shared⁶³, lead⁶⁴ and sole⁶⁵ competence for several or all environmental media, which represents an increasing degree of organizational integration⁶⁶.

Anker also contends that organizational integration is an important part of an integrated approach to environmental management⁶⁷. Anker states that the aim of organizational integration is to ensure coordination among governmental agencies horizontally, vertically among different levels of government, and between government and private bodies⁶⁸. Vertical integration in its broadest sense may even encompass public participation. Yet, while Anker correctly points out that organizational integration extends both horizontally and vertically, the author fails to identify this

⁵⁸ *Ibid.*, at 181.

⁵⁹ Ibid.

⁶⁰ Hence, many critics call for a single environmental legislation. See in this connection Douglas L. Tookey, "Singapore's Environmental Management System: Strengths and Weaknesses and Recommendations for the Years Ahead" (1998) 23 *William and Mary Environmental Law and Policy Review* 169 at 213-217, 236-240 (arguing that Singapore lacks a coordinating environmental legislation and has too many institutions involved in environmental matters, and that the best way to solve the problem is to implement a single umbrella environmental law and agency). See also Terri Mottershead, "Environmental Protection in Hong Kong – Are we prepared for the 21st Century" (August 2000) *Hong Kong Lawyer* 80, at 82 (arguing that the sectoral legislation in Hong Kong fails to control all environmental wrongs and does not provide all data necessary for strategic advice on an integrated environmental policy); and E. Rehbinder, "Points of Reference for a Codification of National Environmental Law", Chapter 11 in Hubert Bocken & Donatienne Ryckbost (eds.), *Codification of Environmental Law: Proceedings of the International Conference in Ghent, February 21 and 22, 1995* (London, Hague, Boston: Kluwer Law International, 1996), 157 at 159-160 (stating the need to codify a new trans -sectoral concept of environmental regulation to overcome the traditional fragmentation of environmental law and reconcile sectoral approaches to environmental regulation).

⁶¹ For example, such a fragmented institutional organisation may hamper the development of an integrated or holistic policy. It may also lead to inconsistent decision -making or failure to consider the cross-media or cross-sector impacts. ⁶² Bohne, supra note 13, at 45-46.

⁶⁶ *Ibid.*, at 46. Shared competence means that an authority is legally bound by opinions, reports, or decisions supplied by non-subordinate public institutions, and/or when the authority needs the consent of other authorities at the same or a higher administrative level before making relevant decisions.

 ⁶⁴ *Ibid.* Lead competence means that an authority with decision -making powers is dependent on opinions, reports, or decisions supplied by non-subordinate public institutions without being legally bound by these contributions.
 ⁶⁷ *Ibid.*, at 45. Sole competence means that one authority has the power to make all relevant decisions.

⁶⁶ *Ibid.*, at 46.

⁶⁷ The author uses the term – "cross-agency integration", Helle T. Anker, "Integrated Resource Management – Lessons for Europe?" [2002] *European Environmental Law Review* 199, at 201.

⁶⁸ Ibid.

dimension of integration concerns about the changes in organizational structures⁶⁹. Organizational integration also involves the consolidation or reorganization of agencies⁷⁰. This may be a precondition for an integrated approach, as many countries have consolidated the functions of various agencies through an "umbrella body" that handles environmental issues exclusively to deal with new or existing environmental problems⁷¹.

c. External integration

The above two mechanisms, "substantive integration" and "organizational integration", have sometimes been categorized as "internal integration" (that is, integration of programs and policies dealing with environmental issues ⁷²). This is to distinguish it from the third and last dimension of integration - "external integration" (that is, the integration of environmental consideration into nonenvironmental sectors⁷³). External integration is developed from the notion that sustainability requires human beings to adopt a modified paradigm to their relationship with the environment⁷⁴. Rather than forcing the nature to meet society's growing need, human beings must adapt to the constraints of the environment⁷⁵. Therefore, environmental protection and pollution control should not only be of concern to environmental decision-makers, but should also be important considerations to other agencies in administration or policy-making when shaping or implementing other policies. Put simply, decision-makers in other sectors should take environmental considerations, including pollution issues, into account when making all decisions. This dimension of integration is not uncommon in international environmental law. As restated in the recent World Summit on Sustainable Development, institutional arrangements are required to integrate economic, social, and environmental dimensions of sustainable development in a balanced manner $\frac{76}{6}$. Sands even considers the commitment to integrate environmental considerations into economic as a constituting element of "sustainable development" 77 .

E. The Need to Change Our Ways

⁷² See Clarence Davies, "Some Thoughts on Implementing Integration" (1992) 22 *Environmental Law* 139, at 139-144. ⁷³ See *Ibid.*, at 144-146.

 $^{^{69}}$ See OECD, Recommendation, supra note 48, Appendix, para 5 (a).

⁷⁰ *Ibid*.

⁷¹ For examples, in the United Kingdom, the UK Her Majesty's Inspectorate of Pollution was established in 1987 to combine the functions of the Industrial Air Pollution Inspectorate, the Hazardous Wastes Inspectorate, and the water pollution staff within the Department of the Environment. In the United States, the US Environmental Protection Agency was created in 1970 to concentrate the regulatory jurisdiction of five major environmental statutes, which were previously administered by different agencies. In Sweden, the central administrative Swedish Environmental Protection Agency was established in 1967 and was later expanded to include divisions for wood products, pulp and paper, chemicals, waste treatment, and food.

⁷⁴ See Ulrich Klein, "Integrated Resource Management in New Zealand – A Juridical Analysis of Policy, Plan and Rule Making under the RMA" (2001) 5 *New Zealand Journal of Environmental Law* 1, at 19 citing Bush-King, "Alice in Wonderland and the Resource Management Act", Paper to the *New Zealand Planning Institute Conference* (1992) 1, at

^{1.} ⁷⁵ Ibid.

⁷⁶ See Chapter XI of Plan of Implementation of the World Summit on Sustainable development. Available at <u>http://www.johannesburgsummit.org/</u> (last visited on 30 March 2004).

⁷⁷ Philippe Sands, *Principles of International Environmental Law I: Frameworks, Standards and Implementation* (Man chester: Manchester University Press, 1995), at 205-208. See also in this connection Andre Nollkaemper, "Three Conceptions of the Integration Principle in International Environmental Law", Chapter 2 in Andrea Lenschow (ed.), *Environmental Policy Integration: Greening Sectoral Policies in Europe* (London; Sterling, VA: Earthscan Publications Ltd., 2002), 22 at 25-30 (pointing out "external integration" can be construed as an objective, a rule of reference or an autonomous principle).

Having identified the theory for integrated approach, three dimensions of integration and components of an idealized integrated approach, it is now appropriate to draw some conclusions.

The major theme that has emerged in the literature of integrated approach to pollution control is the contention that, in order to solve our environmental predicament, we need to change the ways towards environmental protection. This part suggests that an integrated approach to pollution control is a widely recognized way. At the European Community level, several European Directives, including the Directive 96/61 on Integrated Pollution Prevention and Control, more or less call for integration among and within its member states⁷⁸. In New Zealand, the New Zealand Resource Management Act 1991 repealed more than seventy statutes and regulations, and amended numerous others, to provide a single piece of legislation for the management of land, water and air throughout New Zealand⁷⁹. In the United Kingdom, the United Kingdom Environmental Protection Act 1990 and the United Kingdom Pollution Prevention and Control Act 1999 were enacted to provide a framework of integrated pollution control throughout the United Kingdom⁸⁰. Different efforts towards integration have also been made in Sweden, Belgium, the United States, Japan, Netherlands, Germany and etc.

These efforts, both in Europe and in other parts of the world, suggest that, given the worsening environment in Hong Kong, it may be the time to change our ways towards environmental protection and pollution control. This question lies at the heart of section two.

II. A CRITICAL REVIEW OF THE POLLUTION CONTROL SYSTEM IN HONG KONG

An effective pollution control is practically impossible without proper co-ordination and integration with other aspects of environmental management, such as town planning, transportation management and provision of sewerage system. Therefore, this section is to provide an analytic overview of the pollution control system in Hong Kong as well as the extent of its co-ordination and integration with other aspects of environmental management.

I will start by briefly review the processes of fragmentation of pollution control system in Hong Kong, discussing how the past prospects for an integrated approach have generally been overshadowed and overwhelmed by competing concerns that favoured a more segmented approach. I will then examine three different aspects of fragmentation currently in Hong Kong, namely, the institutions, the legislation and the policies. By that, I will set out the characteristics of the current pollution control system in Hong Kong and provide an overview of the resulting problems from its fragmentation. Finally, I will conclude by evaluating the system of pollution control in term of the three dimensions of integration, namely, substantive integration, organizational integration and external integration⁸¹.

 $^{^{78}}$ For discussion in details, see section three below.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ See notes 52-77 and respective texts for discussion on these three dimensions of integration.

A. Processes of Fragmentation

In this section, I propose to give a broad overview of the process of fragmentation of the pollution control system in Hong Kong in order to provide a background against which to analyze the system.

The economy has always been the main priority of the government of Hong Kong⁸². This was true for the British government as it is for the current SAR government. In order to promote economic growth, the government has supported business and industry by regulating their activities as little as possible and following their requests as much as possible⁸³. It is also clear that legislators have a market-oriented appreciation of the costs of pollution control⁸⁴. Given these premises, the Hong Kong government generally took a neglectful approach to pollution control. Programs or legislation to control pollution, as in many other countries, are created whenever the need becomes apparent⁸⁵ and conferred on the public authority whose work is most closely connected with⁸⁶.

Government's pastefforts to integrate pollution control system

Throughout the evolution of Hong Kong's environmental management system, some supporters nonetheless existed for developing a more integrated strategy. Associated with the rapid growth of industrial and commercial activities in the 1960s and 1970s, various environmental pollution problems arose. The Hong Kong government realized that its legislation and the authorities controlling pollution were fragmented and insufficient in dealing with the pollution problems⁸⁷. In 1974, the Hong Kong government's Secretary for the Environment prepared and submitted a brief to a British consulting firm, Environmental Resources Limited, authorizing it to conduct a detailed study on the formulation of a unified environmental protection ordinance and integrated administrative framework⁸⁸. This study has been recognized by one author as the most significant

⁸² It should be noted that Hong Kong does not have a long history of environmental laws and programs. The government's attention and resources has been centred on dwelling controls and housing provisions, which has been lopsidedly prescribed as an answer to the territory's environmental problems in the early 1990s. It is only in 1959 that Hong Kong formed its first poll ution control ordinance – the Clean Air Ordinance. The Ordinance was enacted to control dark smoke emissions from fossil fuel burning installations. For a more detailed account of the pollution problems and government responses to them in the 1800s and early 1990s, see Pauline Choi, "Environmental Protection in Hong Kong: an Historical Account", Chapter 3 in Cecilia Chan and Peter Hills (eds.), *Limited Gains: Grassroots Mobilization and the Environment in Hong Kong* (Hong Kong: Centre of Urban Planning and Environmental Management, the University of Hong Kong, 1993), 29 at 29-32.

⁸⁸ See generally, Bryan Bachner, "Sweep Before Your Own Door: the Legal Concept of Environmentalism in the Pearl River Delta", Chapter 9 in Ray Wacks (ed.), *China, Hong Kong and 1997: Essays in Legal Theory* (Hong Kong: Hong Kong University Press, 1993), 229 at 253-258, for a detailed account on the environmentalism in Hong Kong. ⁸⁸ *Ibid.*, at 253-254.

⁸⁵ For instance, the government's responses to environmental problems has been driven by and directed against epidemics and health problems. In 1862, the Sanitary Committee was appointed following the outbreak of cholera. In 1894, the Closed House and Insanitary Dwellings Ordinance was passed following the outbreak of bubonic plague. In 1904, the Ordinance for the Reservation of a Residential Area in the Hill District was passed following the health crisis in early 1900s.

⁸⁶ For example, the Public Work Department was empowered to monitor the levels of pollution given its authority over sewage dispersion. The Agriculture and Fisheries Department (replaced by the Agriculture, Fisheries and Conservation Department) was empowered to monitor marine water given its interest in fisheries and conservation.

⁸⁷ See addresses by the Secretary of the Environment in *Hong Kong Hansard (Session 1973/74)*, 29th November 1973, at 209; and *Hong Kong Hansard (Section 1974/75)*, 14th November 1974, at 197.

⁸⁸ See The Brief (as prepared by the Hong Kong Government and outlined in Appendix A of the letter to Environmental *Resources Limited*), Hong Kong Government, ENV 8/05/05 (TC 30), 19th June 1974, quoted in Environmental Resources Limited, *Stage 1 Report on Control of the Environment in Hong Kong*, August 1975, at 7-8.

study among all internal or external consultancies, reports, briefings and the like on environmental protection in Hong Kong⁸⁹.

Having reviewed both the existing environmental situation and controlling methods, the first stage of the study culminated in the submission of the Stage 1 Report⁹⁰. The report noted that pollution is not a series of separated problems, but largely a single problem of disposing wastes without doing undue damage to the environment⁹¹. The report found that there were too many authorities and departments having interest in monitoring or controlling the discharges of pollutants, that there may be several authorities and departments that undertake the control of discharges into a single medium⁹². The report also found that the laws concerning pollution control were uncoordinated, and inconsistently enforced⁹³.

In order to achieve a controlled environment, the Stage 1 Report proposed to formulate a planned and integrated approach to pollution control, taking into account scientific, technical, economic and social factors⁹⁴. In substance, the report recommended a centralized specialist body to undertake overall responsibility for pollution control and program coordination⁹⁵ and a scheme of integrated anti-pollution legislation⁹⁶.

Competing concerns that favoured a segmented approach

However, given the long history of a neglectful approach to the environmentalism in Hong Kong, dramatic changes in legislative and administrative structures were both unenforceable and politically impossible⁹⁷. As a result, all the above recommendations for integration have been changed, by the final stage of the study in 1977⁹⁸, at the request of the Hong Kong government⁹⁹, conceding to the strongly expressed concerns of individual departments and budgetary

⁸⁹ See Terri Mottershead, "Environmental Protection in Hong Kong – Are we prepared for the 21st Century" (August 2000) Hong Kong Lawyer 80, at 80. The scope of the study can also be best understood by noting that the study took three years to complete, was separated in two distinct phases (the first phase was completed in 1975 and has made outline recommendations on the type and structure of the control authorities and system; the second phase was completed in 1977 and has made detailed recommendations on the control authorities and system and detailed drafting instructions for new legislations) and resulted in the submission of at least thirteen separate consultative documents and reports.

³⁰ Environmental Resources Limited, Stage 1 Report on Control of the Environment in Hong Kong, August 1975. The report submitted in 1975 was divided into three volumes; firstly, the Report contained observations and recommendations; secondly, the Appendix A outlined the present and future sources of pollution; and thirdly, Appendix B pointed the various authorities, laws which attempted to control the environment in Hong Kong. ⁹¹ *Îbid.*, para 7.3 (iii).

⁹² *Ibid.*, para 7.2 to 7.3.

⁹³ See generally, *ibid.*, section II-V. See also M. Downey, "Law and the Control of the Hong Kong Environment", in Peter Hills (ed.), Environmental Planning, Management and Technology in Hong Kong (Hong Kong: Centre of Urban Studies and Urban Planning, University of Hong Kong, 1988), 35 at 35-37.

⁹⁴ *Ibid.*, para 7.1.

⁹⁵ *Ibid.*, para 7.1 to 7.2.

⁹⁶ See Mottershead, *Hong Kong Lawyer*, supra note 89, at 81.

⁹⁷ See Bryan Bachner, "the Risk of Wealth: Determining a Sustainable Development Law and Policy for Hong Kong" (1998) 6 Asian Journal of Environmental Management 23 at 25; and Bryan Bachner, "Toward a Law of Sustainable Development in Hong Kong", in Priscilla Leung and et al (eds.), the Basic Law of the HKSAR: from theory to practice (Hong Kong: Butterworths, 1998), 389 at 393. The author pointed out that the Environmental Resources Limited has taken this fact into account while making the recommendations in the Stage 1 Report. It has admitted that vigorous environmental standards were never contemplated because they would be neither enforceable nor politically possible.

⁹⁸ Environmental Resources Limited, Final Report on Control of the Environment in Hong Kong, June 1977. The Final Report marked the end of the final phase of consultation. ⁹⁹ See Mottershead, *Hong Kong Lawyer*, supra note 89, at 81.

constraints¹⁰⁰. The centralized specialist body was narrowed to a unit, functioning within a defined parameter, where other departments retained research, monitoring and control functions on certain environmental pollution issues¹⁰¹. The integrated anti-pollution legislation was compromised by five independent ordinances covering air, water, noise pollution, waste disposal and environmental impact assessment¹⁰².

The above compromises are significant. They have not only determined the nature and scope of the administrative and legislative framework of today, they have also set in place a mindset that affected the development of the environmental protection regime in Hong Kong of today¹⁰³. As such Hong Kong has not developed an integrated and comprehensive system to regulating all polluting activities. In contrast, fragmentation occurs incrementally over many years in an ad hoc manner as new programs are enacted or new agencies are created. Set out below is the extent of fragmentation in three aspects – institutional, legislative and policy – currently in Hong Kong and the resulting problems

B. Institutional Constraints

As stated in the beginning, an effective pollution control is practically impossible without proper co-ordination and integration with other aspects of environmental management. The lack of interdepartmental coordination and integration has been the mostly criticized part of the pollution control system in Hong Kong. Much of the past and present criticisms leveled in Hong Kong have been focused on its institutional structures ¹⁰⁴. Despite repeated calls for reforms, it is still generally recognized that Hong Kong lacks a coordinated, systematic, and unified approach to environmental pollution issues. There are too many bureaux, departments and other bodies are involved in environmental pollution or related issues but there is too little communication, coordination and integration among them¹⁰⁵.

¹⁰⁰ See Robin Bidwell, "15 years of progress? Environmental Institution Building in Hong Kong", in Peter Hills et al (eds.), *Pollution in the Urban Environment: Polmet 88* (London: Vincent Blue Copy Co. Ltd., 1988), 18 at 21; and also Robin Bidwell, "Environmental Protection in Hong Kong: from Theory to Practice" (1990) 10 *Environment Impact Assessment Review* 247 at 250.

¹⁰¹ *Final Report*, supra note 98, Part A, para 1.2.

¹⁰² *Ibid.*, Part B, para 1.2.

¹⁰³ See Mottershead, *Hong Kong Lawyer*, supra note 89, at 81.

¹⁰⁴ See, in order of time, Pauline Choi (1993), "Environmental Protection in Hong Kong: an Historical Account", Chapter 3 in Cecilia Chan and Peter Hills (eds.), Limited Gains: Grassroots Mobilization and the Environment in Hong Kong (Hong Kong: Centre of Urban Planning and Environmental Management, the University of Hong Kong), 29 at 39 (arguing that the responsibilities of environmental protection are still fragmented among government departments); Cecilia Chan (1994), "Responses to low-income communities to environmental challenges in Hong Kong", Chapter 8 in Hamish Main and Stephen W. Williams (eds.), Environment and Housing in Third World Cities (Chichester: John Wiley and Sons), 131 at 145-147 (pointing out that there is little inter-disciplinary cooperation at various levels of the government); Cecilia Chan and Peter Hills (1997), "Community and the Environment in Hong Kong", Chapter 1 in Peter Hills and Cecilia Chan (eds.), Community Mobilization and the Environment in Hong Kong (Hong Kong: Centre of Urban Planning and Environmental Management, the University of Hong Kong), 1 at 7 (also pointing out that responsibility for environmental protection among government departments remains fragmented); Terri Mottershead (2000), "Environmental Protection in Hong Kong – Are We Prepared for the 21st Century?" Hong Kong Lawyer, August, 80 at 80-81 (arguing that Hong Kong lacks an coordinating and integrative administrative framework); Terri Mottershead (2002), "Hong Kong", Chapter 5 in Terri Mottershead (ed.), Environmental Law and Enforcement in the Asia-pacific Rim (Hong Kong: Sweet and Maxwell Asia), 137 at 159 (arguing that too many bureaux and departments are involved in environmental protection and thus hampered the development of an integrated or holistic environmental policies). ¹⁰⁵ These concerns have recently been raised in a consultancy study dealing with sustainable development – *the*

¹⁰⁰ These concerns have recently been raised in a consultancy study dealing with sustainable development – *the* Sustainable Development for the 21st Century Study. See HKSAR, Sustainable Development for the 21st Century: Final

a. Policy-making institutions

The organizational structure of the policy-making framework in Hong Kong is complex. While the Chief Executive announces policy initiatives in October each year in his policy addresses, the responsibility to formulate public policies and initiate legislative proposals rests with eleven Policy Bureaux of the central Government Secretariat, established on defined sectoral lines¹⁰⁶. Inevitably, the roles of the bureaux may overlap especially when involving cross-sectoral issues. Although the related bureaux may develop policies jointly and present any unresolved issues to the Chief Secretary's Committee and its subordinate Policy Groups for decision¹⁰⁷ or to the Executive Council for advice¹⁰⁸, there is no guarantee that all related bureaux in cross-sectoral issues must coordinate in formulating the policies. Several deficiencies are resulted from the structural arrangement:

1. Over-departmentalization

In fact, actual responsibility for environmental management is now widely dispersed among bureaux. The duties to formulate and implement environmental protection and conservation policies are primarily discharged by the Environmental, Transport and Works Bureau ("ETWB")¹⁰⁹. The duties to formulate and implement development and land planning policies are primarily discharged by the Housing, Planning and Lands Bureaus. The Education and Manpower Bureau and ETWB are both responsible to formulate policies of environmental education. The primary goals of bureaux other than the ETWB are neither centrally concerned with the environment, nor legally or administratively obliged to accept directions from the environmental bureau. Co-operation is thus difficult to achieve.

The current policy-making framework is, in fact, the product of repeated substantial organizational rearrangement by the Hong Kong Government since 1997. Tracing back to 1988, the policies of lands, planning, environment and conservation were developed in tandem by a single institution – the Planning, Environment and Lands Branch, which was later upgraded to the Planning, Environment and Lands Bureau in 1998¹¹⁰. However, in January 2000, the lands and

Report (Hong Kong: Environmental Resources Management, 2000). In Box 8.4a of the report, it articulates that: i. Existing institutional mechanisms do not fully promote the development of holistic views about issues. ii.

Communication barriers exist among different bureaux and departments, which results in decisions being taken without the full benefit of inputs from across the range of sectoral interests. iii. Existing operational culture is not conductive to greater integration and accountability. This in turn creates a resistance to institutional change ... v. Role and

responsibilities are unclear and this detracts from transparency and accountability. Incentives to take the lead and make decisions are not in the right place.

¹⁰⁶ The 11 Policy Bureaux was established under the accountability system in 1st July 2002. They are namely, Civil Service Bureau; Commerce, Industry and Technology Buæau; Constitutional Affairs Bureau; Economic Development and Labour Bureau; Education and Manpower Bureau; Environment, Transport and Works Bureau; Financial Services and Treasury Bureau; Health, Welfare and Food Bureau; Home Affairs Bureau; Housing, Plann ing and Lands Bureau; and Security Bureau.

¹⁰⁷ See generally Hong Kong Government Information website (Chief Secretary for Administration) at <u>http://www.info.gov.hk/cso/</u>(last visited on 30 March 2004).

¹⁰⁸ See generally Hong Kong Government Information website (Executive Council) at

http://www.info.gov.hk/info/exco.htm (last visited on 30 March 2004).

¹⁰⁹ See generally the ETWB website at <u>http://www.etwb.gov.hk/</u> (last visited on 30 March 2004). The ETWB is also responsible for policy matters on development of transport infrastructure, provision of transport services, traffic management, public works, water supply, slope safety and flood prevention.

¹¹⁰ See HKSAR Information Services Department, *Hong Kong 1998* (Hong Kong: Information Services Department, 1999), at 370.

planning issues were segregated from the environment and conservation issues at the bureau level, with the establishment of the Planning and Lands Bureau¹¹¹; and Environmental and Food Bureau¹¹². This institutional framework did not last for a long time. In 2002, the environmental policy-making framework was again repositioned despite of strong opposition from green groups (including the Conservancy Association¹¹³, the Green Peace¹¹⁴, the Green Power¹¹⁵, the Friends of the Earth (Hong Kong)¹¹⁶, and the World Wide Fund (Hong Kong)¹¹⁷); government official¹¹⁸; the Environmental Campaign Committee¹¹⁹; and Legislators (including Choy So-yuk¹²⁰ and Emily Lau Wai-hing¹²¹)¹²². Environment and conservation issues were merged with transport and works issues, with the establishment of the most recent ETWB, while the food and environmental hygiene issues were further separated to the Health, Welfare and Food Bureau¹²³ and the lands and planning issues remain segregated within the new Housing, Planning and Lands Bureaus.

2. Ineffective cross-sectoral co-ordination

Despite of the numerous organizational reforms, neither the creation of new institutions nor the upgrading or reconstruction of the existing ones has eliminated the structural deficiencies to effective implementation of environmental laws and policies. On the contrary, the reforms have led to further problems. It has hampered attempts to develop more effective cross-sectoral policy initiatives to address environmental and sustainable concerns¹²⁴. For example, in 2000, the Environmental Protection Department was brought under the auspices of the Environment and Food Bureau and removed from the ambit of the former Planning, Environment and Lands Bureau. This has been argued to substantially weaken the Environmental Protection Department's linkages with the spa tial planning function in the government 125 .

¹¹¹ See Hong Kong 2000, ibid., at 209-210. The Planning and Lands Bureau was established on 1 January 2000. It was responsible for monitoring the general progress of physical development of Hong Kong, as well as considering and endorsing detailed planning briefs, layouts and development plans.

¹¹² See HKSAR Information Services Department, Hong Kong 2000 (Hong Kong: Information Services Department, 2001), at 279-280. The Environmental and Food Bureau was established on 1 January 2000 and assumed the policy responsibilities of agriculture, fisheries and conservation matters; environmental protection; and the healthy living campaign. It formulated and reviewed environmental policies: on controlling air, noise and water pollution; on waste reduction and increase efficiency in energy and other resource consumption; to facilitate waste collection and disposal; and for the protection and conservation of the environment.

¹¹³ Wenweipo, 4th June 2002, A16 (in Chinese).

¹¹⁴ Ibid.

¹¹⁵ Man Chi-sum (chief executive office of the Green Power), Hong Kong Economics Times, 7th June 2002, A40 (in Chinese).

¹¹⁶ Hong Kong Economics Times, 12th June 2002, A30 (in Chinese) and Hong Kong Economics Times, 4th June 2002, A33 (in Chinese).

¹¹⁷ Ming Pao, 30th May 2002, A4 (in Chinese).

¹¹⁸ Ming Pao, 10th June 2002, D12 (in Chinese).

¹¹⁹ Wong Man-chiu (chairman of the Environmental Campaign Committee), Wenweipo, 3rd June 2002, A11 (in Chinese).

¹²⁰ Oriental Daily, 3rd June 2002, A20 (in Chinese).

¹²¹ Ming Pao, 4^{th} June 2002, A10 (in Chinese).

¹²² It should be noted that there are also supporters for the new arrangement. See Cheng Chi-fai, "Single bureau for environment and transport best, say expert", *South China Morning Post*, 12th June 2002, EDT4. ¹²³ See HKSAR Information Services Department, *Hong Kong 2002* (Hong Kong: Information Services Department,

^{2003),} at 174. The Health, Welfare and Food Bureau is responsible for, among other matters, the policy formulation for

food safety, environmental hygiene, veterinary health, and agriculture and fisheries. ¹²⁴ See Peter Hills and Richard Welford, "Ecological modernization as a weak form of sustainable development in Hong Kong" (2002) 9 International Journal of Sustainable Development and World Ecology 315, at 326.¹²⁵ Ibid.

3. *Role conflicts*

Moreover, the reorganization also created role conflicts in the Environment, Transports and Works Bureau. The new Secretary for the Environment, Transport and Works has acted both as developer and environmentalist, and served to concert both the transportation policies (policies for development) and environment policies (policies for conservation), which are, to a large extent, in conflict with each other¹²⁶. Environmentalists have expressed worries that the environment would be sacrificed in favour of transport and works ¹²⁷. Indeed, in the legal action over the Central reclamation project, road building has prevailed over harbour conservation¹²⁸.

b. **Executive institutions**

The executive institutional framework in Hong Kong is highly fragmented. This situation is overlapping jurisdiction of a multiplicity of agencies responsible for implementing environmental statutes and programs. Enforcement powers on issues of, and relating to, environmental pollution are split among government departments. The Environmental Protection Department ("EPD")¹²⁹ deals mostly with compliance issues relating to or arising out of the anti-pollution legislations and acts in an advisory capacity to other departments. Yet, in addition to the EPD, 17 other departments, 3 agencies and 2 authorities also have jurisdictions directly or indirectly over various environmental pollution issues. They are:

Agriculture, Fisheries and Conservation Department¹³⁰: Architectural Services Department¹³¹; Buildings Department¹³²: Civil Aviation Department¹³³; Civil Engineering Department¹³⁴;

¹²⁶ A case in point that led to a vigorous debate was the transportation projects crossing through the Long Valley in the New Territory. The Kowloon-Canton Railway Corporation ("KCRC") and the Transport Department, on one side, sought to construct a new railway line linking the existing East Rail system from Sheung Shui to a new border crossing at Lok Ma Chau, part of which was planned to pass through the Long V alley. The Environmental Protection Department and the Agriculture, Fisheries and Conservation Department, on the other side, sought to protect the Long Valley habitat, where has a number of globally, regionally and locally threatened species of birds of conservation importance. The Director of Environmental Protection rejected the KCRC's environmental impact assessment report on the ground of unacceptable ecological impacts, a decision subsequently upheld by the Environmental Impact Assessment Appeal Board. See Kowloon-Canton Railway Corporation v. Director of Environmental Protection, Environmental Impact Assessment Appeal Board Decision, No.2 of 2000, available at http://www.epd.gov.hk/eia/boar d/decision.html (last visited on 30 March 2004).

¹²⁷ See notes 113-122 above.

¹²⁸ See Cheng Chi-fai, "Environment chief hedges bets on harbour; we must strike a balance between protection and development: Sara Liao", South China Morning Post, 11th October 2003, at 3. See also the related judicial decisions: Society for Protection of the Harbour Limited v. Town Planning Board, HCAL 19/2003, Court of First Instance of HKSAR (in the matter of the decisions of the Town Planning Board with regard to the Draft Wan Chai North Outline Zoning Plan); Town Planning Board v. Society for Protection of the Harbour Limited, FAMV No. 26 of 2003, Court of Final Appeal of HKSAR (on application for leave to appeal from HCAL 19/2003); Society for Protection of the Harbour Limited v. Chief Executive in Council and Others, HCAL 102/2003, Court of First Instance of HKSAR (on application for interim injunctive relief for stoppage of work connected to the Central land reclamation plan). ¹²⁹ The Environment Protection Department was upgraded from the Environmental Protection Agency in 1986, which

was originally upgraded from the Environmental Protection Unit established in 1977. ¹³⁰ The Agriculture, Fisheries and Conservation Department, while is currently under the Health, Welfare and Food

Bureau, is also responsible to the Secretary for the Environment, Transport and Works.

¹³¹ The Architectural Services Department, while currently under the Environment, Transport and Works Bureau, is also responsible to the Secretary for Financial Services and the Treasury. ¹³² Currently under the Housing, Planning and Lands Bureau.

¹³³ Currently under the Economic Development and Labour Bureau.

Customs and Excise Department¹³⁵; Drainage Services Department¹³⁶; Electrical and Mechanical Services Department¹³⁷; Food and Environmental Hygiene Department¹³⁸: Highways Department¹³⁹; Housing Department¹⁴⁰: Lands Department¹⁴¹; Leisure and Cultural Services Department¹⁴²; Marine Department¹⁴³; Planning Department¹⁴⁴: Territory Development Department¹⁴⁵; Transport Department¹⁴⁶: Hong Kong Police Force¹⁴⁷; Hong Kong Observatory¹⁴⁸; Government Laboratory; Lands Authority; and Housing Authority

The number of government departments involved in management of environmental resources in Hong Kong has been described as "mind-boggling"¹⁴⁹. In general, departments and bureaux tend to work on their own to develop policies, strategies and action plans and to pursue their own confined, sometimes conflicting, goals and agendas¹⁵⁰. They are also more focused on enforcement of command and control legislations for the control of air, water and waste pollution rather than a

¹³⁸ Currently under the Health, Welfare and Food Bureau.

¹³⁹ Currently under the Environment, Transport and Works Bureau.

¹⁴⁰ It supports the Secretary for Housing, Planning and Lands and is headed by the Permanent Secretary for Housing, Planning and Lands (Housing).

¹⁴¹ Currently under the Housing, Planning and Lands Bureau.

¹⁴⁶ Currently under the Environment, Transport and Works Bureau.

¹⁴⁷ Currently under the Security Bureau.

¹⁵⁰ See Peter Hills and William Barron, "Hong Kong: the challenge of sustainability" (1997) 14 *Land Use Policy* 41, at 46. The authors contend that the government seems all too often to be pulling in different directions, with different branches and departments pursuing their own, sometimes conflicting, goals and objectives. The Transport Department, for example, does not seem to regard the environment as part of its remit, even though transportation has some of the most profound impacts on the local environment. And attempts by the Environmental Protection Department to consolidate various planning and management functions under its umbrella have been viewed as bureaucratic empire building rather than a necessary and logical step for integrated environmental policy making.

¹³⁴ The Civil Engineering Department, while currently under the Environment, Transport and Works Bureau, is also responsible to the Secretary for Economic Development and Labour; and the Secretary for Housing, Planning and Lands.

Lands. ¹³⁵ The Customs and Excise Department, while currently under the Commerce, Industry and Technology Bureau, is also responsible to the Secretary for Security; the Secretary for Financial Services and the Treasury; and the Secretary for Economic Development and Labour.

¹³⁶ Currently under the Environment, Transport and Works Bureau.

¹³⁷ The Electrical and Mechanical Services Department, while currently under the Environment, Transport and Works Bureau, is also responsible to the Secretary for Economic Development and Labour; the Secretary for Security; and the Secretary for Housing, Planning and Lands.

¹⁴² Currently under the Home Affairs Bureau.

¹⁴³ Currently under the Economic Development and Labour Bureau.

¹⁴⁴ Currently under the Housing, Planning and Lands Bureau.

¹⁴⁵ The Territory Development Department, while currently under the Environment, Transport and Works Bureau, is also responsible to the Secretary for Housing, Planning and Lands.

¹⁴⁸ Currently under the Economic Development and Labour Bureau.

¹⁴⁹ Albert Lai Kwong Tak, "Sustainable Development: the first step is a new mindset" *South China Morning Post*, 6th March 2003. Available also on Conservancy Association website at <u>http://www.conservancy.org.hk/</u> (last visited on 30 March 2004).

value based, planned, integrated, holistic and coordinated approach to environmental management¹⁵¹.

The new Environmental Protection Department: highly functional, and heavily segmented

Although the Environmental Protection Unit was separated from the Government Secretariat to form the Environmental Protection Agency in 1981¹⁵² and subsequently upgraded and expanded to the current Environment Protection Department ("EPD") in 1986¹⁵³, it has not found the integrative role that was initially proposed in the Stage 1 Report for it¹⁵⁴. On the contrary, it has consistently been overshadowed by single medium concerns and programs. These programs are highly "functional", that is, distinct air pollution control, water quality control, solid waste management¹⁵⁵. They fail to take account of cross-media considerations. The EPD has never received absolute authority over other departments' environmental programs. There are still many pollution sources that remain outside the control of the Environment Protection Department. The EPD has been severely restrained by highly specific legislation. Today, the department, even with increased responsibilities, remains mostly a functional body dealing with compliance issues relating to, or arising from, the pollution control ordinances. Set out below are the major problems resulting from the current institutional framework.

Confused line of responsibilities and inefficiency trapped in over-departmentalization

There is no guarantee that departments will see issues in the same way or agree upon the courses of action to be followed. Thus with so many departments and other authorities, possessing different and overlapping enforcement powers which may be exercised unevenly, to consider environmental pollution issues, it can be difficult to achieve a coordinated approach to pollution matters and result in ineffective enforcement.

Firstly, consider a hypothesis that a local corporation that owns a toy factory in the Tai Po Industrial Estate, which is located east of the New Territory. Suppose the factory is in violation of the pollution standard because it emits hazardous gas. The Local Control Division of EPD becomes aware of it and issues a notice to the company to comply with the Air Pollution Control Ordinance (Cap. 311) ("APCO"). At the same time, the hazardous gas has affected some birds living in the Tai Po Kau Special Area, which is under the jurisdiction of the Country and Marine Parks Authority¹⁵⁶. Here, we note that different government agencies are in charge of stopping the emissions and protecting the birds, which are the tree and fruits of the same pollution. However, the Country and Marine Parks Authority does not have direct enforcement power against the company. Thus

¹⁵¹ See Terri Mottershead, "Sustainable Development in Hong Kong – A Road Yet to be Travelled?" [2002] Singapore Journal of International and Comparative Law 809, at 814. See also William Barron, "The Environment and the Political Economy of Hong Kong", Chapter 8 in David Mole (ed.), Managing the New Hong Kong Economy(Hong Kong: Oxford University Press, 1996) 127, at 132-134. ¹⁵² See Environmental Protection Department, *Milestones in Hong Kong Environmental Protection*, available at

http://www.epd.gov.hk/epd/english/resources_pub/history/history_hkep.html (last visited on 30 March 2004). ¹⁵³*Ibid.* ¹⁵⁴ See supra note 90.

¹⁵⁵ See About EPD: EPD's work: Responsibility by Environmental Protection Department at http://www.epd.gov.hk/epd/english/about_epd/epd_work/epd_work1.html (last visited on 30 March 2004) for details of these programs.

¹⁵⁶ Section 3, Country Parks Ordinance (Cap. 208).

promptly remedying the air pollution so that it does not irreversibly harm the birds might be a problem if communication barriers exist between the two authorities¹⁵⁷.

Secondly, suppose a pig farm, which is located in the Tai Lam Country Park, discharges sewage to the streams directly and causes water pollution. Under the Country Parks Ordinance (Cap. 208), the Agriculture and Fisheries Department should remove the pig farm. However, as the farm constitutes an illegal occupation of government land, the Lands Department should take action under the Land (Miscellaneous Provisions) Ordinance¹⁵⁸ to remove the pig farm too. Here, we note that different government agencies are in charge of the same matter. Promptly removing the pig farm so that it causes no more water pollution might be a problem if both agencies do not initiate action¹⁵⁹.

In fact, there are at present six departments responsible for dealing with air pollution in Hong Kong¹⁶⁰ and five departments in charge of matters concerning water pollution¹⁶¹. In addition, for major projects, such as the Harbour Area Treatment Scheme ("HATS") to improve the water quality of the Victoria Harbour¹⁶², many government departments are involved during the process of concept planning, design, engineering, contract letting, project management, execution, operation and monitoring so that, in the end, no single unit in the government take responsibility for the entire scheme¹⁶³. With such a range of departments in operation, responsible officials may hide behind the bureaucratic maze and take advantage of confused lines of responsibilities, while consultants and contractors take advantage of the confusion resulting in substandard work being delivered¹⁶⁴.

C. Inadequacy of the Legislation

As discussed above, an integrated environmental legislative framework was proposed for Hong Kong, however, this was not ultimately realized nor even been revisited. The Final Report noted

¹⁵⁷ Hong Kong's Wild Animals Protection Ordinance (Cap. 170) does not protect wild animals and birds from environmental pollution. Thus this hypothetic identifies a weak area of Hong Kong's conservation system and highlights a possible need for such legal protection.

¹⁵⁸ Section 6, Land (Miscellaneous Provisions) Ordinance (Cap. 28).

¹⁵⁹ A similar complaint was lodged against the Lands Department to the Office of Ombudsman before. See *Complaint against the Lands Department and the Urban Services Department for failing to take enforcement action against an illegal structure and poor co-ordination between the two departments in handling this complaint*, OMB 1997/0754 and OMB 1997/0755, October 1997, available at <u>http://www.ombudsman.gov.hk/english/link_05_reports.html</u> (last visited on 30 March 2004). In this case, both the Urban Services Department and the Lands Department tried to shirk their enforcement responsibility and this has resulted in inaction by both departments against an illegal structure. ¹⁶⁰ They are: Customs and Excise Department; Electrical and Mechanical Services Department; Environmental Protection Department; Marine Department; Police Force; and Transport Department.

 ¹⁶¹ They are: Buildings Department; Civil Engineering Department; Environmental Protection Department; Marine Department; and Police Force.
 ¹⁶² Previously known as Strategic Sewage Disposal Scheme. The HATS is an overall sewage collection, treatment and

¹⁰² Previously known as Strategic Sewage Disposal Scheme. The HATS is an overall sewage collection, treatment and disposal scheme for areas on both sides of Victoria Harbour. Implementation of the scheme is now divided into four stages. Stage 1 was designed to convey sewage from the most densely populated and industrial areas to a sewage treatment works at Stonecutters Island for chemical treatment. Subsequent stages aimed to extend the cover area to include the northern and southwestern areas of Hong Kong Island. For more details, see Hong Kong Government Information Centre (Harbour Area Treatment Scheme) website at <u>http://info.gov.hk/cleanharbour/english/index.html</u> (last visited on 30 March 2004).

¹⁶³ See Conservancy Association, *Propos ed Restructuring of the Environment and Conservation Portfolio*, Position Paper, 10th February 2003. Available on Conservancy Association website at <u>http://www.conservancy.org.hk/</u> (last visited on 30 March 2004).

¹⁶⁴ Ibid.

that a single consolidating ordinance should be enacted¹⁶⁵. The separate control ordinances proposed by it was for a trial period before the ordinances are reconsidered, repealed and eenacted, with whatever revisions have proved to be desirable, in the single consolidating ordinance. However, this promise of segmented ordinances as a stepping-stone toward a single comprehensive ordinance has also never been realized nor even been revisited.

Pollution regulation is now effected in Hong Kong mostly under its specialized medium-based anti-pollution legislation. Each environmental medium is governed by separate statutes and licences. This framework of legislation focuses solely on pollution control as opposed to pollution prevention. Offences are criminal in nature and imposed on the basis of strict liability ¹⁶⁶. Even the Environmental Impact Assessment Ordinance (Cap. 499), which made at least some attempt to foster integration in environmental management, has had only a minuscule impact¹⁶⁷. The law controlling the Hong Kong environment, being still comprised of both specialized and ancillary legislation, has resulted in a fragmented approach¹⁶⁸. Given the fact that pollution is appreciably worsening in Hong Kong, these pieces of legislation have been described as "not working"¹⁶⁹.

Control on each environmental medium will now be discussed in more detail.

Air pollution control a.

Air pollution control in Hong Kong is mostly governed by the Air Pollution Control Ordinance (Cap. 311), which was enacted in 1983¹⁷⁰. Under the ordinance, Hong Kong was divided into 10 air control zones, all of which have a uniform set of air quality objectives. Now, all of Hong Kong has been declared as Air Control Zones with a uniform set of air quality objectives. As such, the Ordinance covers the whole area of Hong Kong.

1. *Nature of control*

The ordinance comprises two types of control mechanism. The first type of mechanism operates in situation where emission of air pollutants from a polluting process has already arisen or is imminent¹⁷¹. An abatement notice may be issued, requiring either reduction or cessation of the emission¹⁷². The second type of mechanism attempts to minimize air pollution by issuing license. The ordinance prohibits the introduction of polluting substances into air unless a discharge consent license has been obtained. Anyone who allows a specified polluting process to be carried out without a licence or in contravention of it commits a criminal offence ¹⁷³.

The ordinance creating the two types of control mechanism is a framework only. Specific quality objectives and standards to be achieved in pollution control are to be found, not in the

¹⁶⁵ See Environmental Resources Limited, *Final Report*, supra note 98, Part A, para 1.3. It also noted that consultation after a period of trial would be easier and cleaner.

¹⁶⁶ It should be noted however that due diligence and/or emergency action defence is usually available.
¹⁶⁷ See notes 201-203 below and respective texts.
¹⁶⁸ See notes 204-205 below and respective texts.

¹⁶⁹ National Councils for Sustainable Development Network, NCSD Sustainable Development Report: Hong Kong, 1999. Available athttp://www.ncsdnetwork.org/global/reports/ncsd1999/hongkong.htm (last visited on 30 March 2004).

¹⁷⁰ L. N. 17 of 1983.

¹⁷¹ Section 10, Air Pollution Control Ordinance (Cap. 311).

¹⁷² *Ibid*.

¹⁷³ Section 13, *Ibid*.

primary legislation, but in other documents such as guidance notes, codes of practices and etc. This documents fill the gaps left by the primary legislation and must, therefore, be referred to when reading the primary legislation.

2. Scope

The Air Pollution Control Ordinance is a general ordinance and will give way to more specific ordinances. And the ordinance is concerned with controlling air pollution from stationery sources¹⁷⁴ and licensing procedure applies to "specified processes" only¹⁷⁵.

3. Regulatory authority

The ordinance is administered centrally by the Environmental Protection Department. The department considers and decides on applications for licences.

4. Overlap with other controls

The ordinance does not provide an overall control on air pollution. As mentioned above, the ordinance is concerned with controlling air pollution from stationery sources ¹⁷⁶ and licensing procedure applies to "specified processes" only. Provisions of other ordinances also have application in the air pollution area. A number of other statutes may overlap with the Air Pollution Control Ordinance. They include the following:

The Road Traffic Ordinance (Cap. 374) regulates road traffic, vehicles and users of road and in particular, pollution from vehicles. And this ordinance is administered centrally by the Transport Department and enforced mostly by the police. The Public Health and Municipal Services Ordinance (Cap. 132) includes also the control on the emission of fumes through the principle of nuisance. The Shipping and Port Control Ordinance (Cap. 313) empowers the Marine Department to regulate and control smoke emission in ports and from vessels. The Ozone Layer Protection Ordinance (Cap. 403) imposes another licensing requirement and procedure for the manufacture, import and export of ozone depleting substances.

b. Water pollution control

Water pollution control in Hong Kong is mostly governed by the Water Pollution Control Ordinance (Cap. 358), which was enacted in 1980¹⁷⁷. This Ordinance is concerned with controlling

¹⁷⁴ See section 3, *Ibid*.

¹⁷⁵ See Schedule 1, *Ibid*. The schedule lists 31 different categories of industrial processes, which are classified as "specified". They are: Acrylates Works; Aluminium Works; Cement Works; Ceramic Works; Chlorine Works; Copper Works; Electricity Works; Gas Works; Iron and Steel Works; Metal Recovery Works; Mineral Works; Incinerators; Petrochemical Works; Sulphuric Acid Works; Tar and Bitumen Works; Frit Works; Lead Works; Amines Works; Asbestos Works; Chemical Inci neration Works; Hydrochloric Acid Works; Hydrogen Cyanide Works; Sulphide Works; Pathological Waste Incinerators; Organic Chemical Works; Petroleum Works; Zinc Galvanising Works; Rendering Works; Non -ferrous Metallurgical Works; Glass Works; and Paint Works (not yet in operation). The list of the specified processes can change from time to time. See section 11,*Ibid*.

¹⁷⁶ See section 3, *Ibid*.

¹⁷⁷ L. N. 4 of 1980.

the pollution of the waters of Hong Kong¹⁷⁸ in two inter-related stages. In the first stage, before the enforcement part is activated¹⁷⁹, the head of the government will declare certain parts of Hong Kong to be a water control zone¹⁸⁰. Whenever a zone is declared, the relevant secretary must establish, for that area, water quality objectives, specifying the minimum water quality standards to be achieved¹⁸¹. By now, Hong Kong waters have already been fully divided into ten water control zones¹⁸² and four supplementary water control zones¹⁸³, where each zone has a similar group of water quality objectives. As such, the ordinance has entered into its second stage by prohibiting particular discharges within the designated water control zones which is either unlicensed or not exempted¹⁸⁴.

1. *Nature of control*

Legislation prohibits the introduction of polluting substances into the waters ¹⁸⁵ of Hong Kong from any premises or vessel unless discharge consent licences have been obtained. Just as with the Air Pollution Control Ordinance, the primary legislation, the Water Pollution Control Ordinance, creating the requirement of the licences is a framework only. Specific quality objectives and standards to be achieved in pollution control are to be found, not in the primary legislation, but in other documents such as guidance notes, codes of practices and etc. This documents fill the gaps left by the primary legislation and must, therefore, be referred to when reading the primary legislation.

2. Scope

Just as with the Air Pollution Control Ordinance, the Water Pollution Control Ordinance is a general ordinance and will give way to more specific ordinances.

3. *Regulatory authority*

Just as with the Air Pollution Control Ordinance, the Water Pollution Control Ordinance is administered centrally by the Environmental Protection Department. The department considers and decides on applications for licences.

4. Overlap with other controls

¹⁷⁸ "Waters of Hong Kong" is widely defined by the Water Pollution Control Ordinance (Cap. 358) as "all inland waters, territorial waters and tidal waters of Hong Kong". See section 2, Water Pollution Control Ordinance.

¹⁷⁹ Part III, *Ibid*. ¹⁸⁰ Section 4, *Ibid*.

¹⁸¹ Section 5, *Ibid*.

¹⁸² They are: Tolo Harbour and Channel; Southern; Port Shelter; Junk Bay; Deep Bay; Mirs Bay; North Western; Western Buffer; Eastern Buffer; and Victoria Harbour. For more details, see Environmental Protection Department, A Guide to Water Pollution Control Ordinance, Annex 1, available at

http://www.epd.gov.hk/epd/english/environmentinhk/water/guide_ref/guide_wpc_wpco_16.html (last visited on 30 March 2004).

¹⁸³ They are: Tolo Harbour Supplementary; Southern Supplementary; Second Southern Supplementary; and North Western Supplementary. For more details, see *ibid*. ¹⁸⁴ Sections 8 and 9, Water Pollution Control Ordinance.

¹⁸⁵ Section 2, *Ibid*. Waters of Hong Kong means all inland waters, territorial waters and tidal waters of Hong Kong

Just as with the Air Pollution Control Ordinance, the Water Pollution Control Ordinance does not provide an overall control on water pollution. Provisions of other ordinances also have application in the water pollution area. A number of other statutes may overlap with the Water Pollution Control Ordinance. They include the following:

The Sewage Services Ordinance (Cap. 463) establishes a scheme for sewage services. And this ordinance is administered centrally by the Drainage Services Department. The Building Ordinance (Cap. 123) and the Building Ordinance (Application to New Territories) Ordinance (Cap. 121) both allows the Building Authority to require adequate waste treatment facilities in any new building and to control over the design of refuse chutes within buildings, private drainage works and oil storage facilities. The Public Health and Municipal Services Ordinance (Cap. 132) includes also the control on the discharges of hazardous materials to sewers. The Waterworks Ordinance (Cap. 102) prohibits polluting discharges in water gathering grounds. The Summary Offences Ordinance (Cap. 228) prohibits marine pollution from littering, which is centrally enforced by the police. The Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap. 413) regulates oil pollution from ship. The Shipping and Port Control Ordinance (Cap. 313) also empowers the Marine Department to control pollution of the sea from both land based and marine sources.

c. Waste disposal control

Waste disposal control is governed mostly by the Waste Disposal Ordinance, which was enacted in 1980¹⁸⁶. This ordinance is divided into three principal parts. The first part of the Ordinance provides the Secretary for the Environment, Transport and Works a duty to prepare a waste disposal plan¹⁸⁷. Relevant authorities have assumed this planning duty under the Waste Disposal Plan of 1989¹⁸⁸ and more recently under the revisited Waste Reduction Framework Plan of 1998¹⁸⁹. An independent Waste Reduction Committee was appointed to monitor the implementation of the later plan¹⁹⁰. The second part of the ordinance restricts the collection of waste to a collection authority or its licensed agent¹⁹¹. Collection of waste by an unauthorized person is a criminal offence¹⁹². The third part of the ordinance sets out the licensing requirement for disposal of waste onto land¹⁹³.

1. Nature of control

The ordinance prohibits unlicensed disposal of waste onto land¹⁹⁴. Although some provisions apply to all types of waste¹⁹⁵, the ordinance tends to categorize it¹⁹⁶ and impose specific

¹⁸⁶ L. N. 8 of 1980.

¹⁸⁷ See generally, Part II, Waste Disposal Ordinance (Cap. 354).

¹⁸⁸ Environmental Protection Department, *Waste Disposal Plan for Hong Kong* (Hong Kong: Planning, Environment and Lands Branch, Government Secretariat, 1989).

¹⁸⁹ Environmental Protection Department, *Waste Reduction Framework Plan* (Hong Kong: Printing Department, 1998). Available also at the Environment, Transport and Works Bureau website at http://www.etwb.gov.hk/ [hereinafter Press Releases and Publications, Publications] (last visited on 30 March 2004).

¹⁹⁰ See Waste Reduction Committee website at <u>http://info.gov.hk/wrc/</u> (last visited on 30 March 2004).

¹⁹¹ See generally, Part III, Waste Disposal Ordinance.

¹⁹² Section 11, *Ibid*.

¹⁹³ See generally, Part IIIA, IIIB, IV, and IVA, *Ibid*.

¹⁹⁴ *Ibid*.

¹⁹⁵ Sections 16 (prohibition of unauthorized disposal of waste) and 16A (prohibition of unlawful depositing of waste), *Ibid.*

Ibid. ¹⁹⁶ See Terri Mottershead, "Hong Kong", Chapter 5 in Terri Mottershead (ed.), *Environmental Law and Enforcement in the Asia -pacific Rim* (Hong Kong: Sweet and Maxwell Asia, 2002), 137 at 176.

requirements on chemical waste, livestock waste, household waste, and the import and export of waste.

2. Scope

Just as with the Air Pollution Control Ordinance and the Water Pollution Control Ordinance, the Waste Disposal Ordinance is a general ordinance and will give way to more specific ordinances.

3. Regulatory authority

Just as with the Air Pollution Control Ordinance and the Water Pollution Control Ordinance, the Waste Disposal Ordinance is administered centrally by the Environmental Protection Department. The department considers and decides on applications for licences.

4. Overlap with other controls

Just as with the Air Pollution Control Ordinance and the Water Pollution Control Ordinance, the Waste Disposal Ordinance does not provide an overall control on water pollution. Provisions of other ordinances also have application in the waste area. A number of other statutes may overlap with the Waste Disposal Ordinance. They include the following:

The Dumping at Sea Ordinance (Cap. 466) provides control on marine dumping. The Foreshores and Sea Bed (Reclamations) Ordinance (Cap.127) provides for the control of reclamation and use of the foreshore and seabed. The Shipping and Port Control Ordinance (Cap. 313) also empowers the Marine Department to control pollution of the sea by dumping of refuse and littering from both land based and marine sources. The Summary Offences Ordinance (Cap.228) creates littering offence, which is centrally enforced by the police. The Town Planning Ordinance (Cap.131) manages waste management land uses. The Building Ordinance (Cap. 123) and the Building Ordinance (Application to New Territories) Ordinance (Cap. 121) both allows the Building Authority to require adequate waste treatment facilities in any new building and to control over the design of refuse chutes within buildings, private drainage works and oil storage facilities.

Environmental impact assessment

The environmental impact assessment is effected under the Environmental Impact Assessment Ordinance (Cap. 499), which was enacted in 1997¹⁹⁷. Under the Ordinance, major developments are required to assess and minimize the environmental impacts of their projects. Although, the Environmental Impact Assessment Scheme was designed to achieve an integrated assessment of the environmental impacts of major development projects, it is considered to cover too narrow a framework to be described as a comprehensive system of environmental assessment. The Environmental Impact Assessment Ordinance focuses on the types of activities rather than the effects of them. Only those projects defined as "designated projects" fall within the ambit of the Ordinance. This limited the applicability of the Environmental Impact Assessment Ordinance to a

¹⁹⁷ L. N. 9 of 1997.

prescriptive list of activities. Such activities are listed in the Schedule 2¹⁹⁸ and Schedule 3¹⁹⁹ attached to the Ordinance.

Moreover, it is introduced as an isolated set of procedures carried out in conjunction with the other anti-pollution legislation. There was no attempt at integrating pollution control and environmental impact assessment.

Characteristics of the pollution control legislation

Having giving an overview of the legislative framework of pollution control in Hong Kong, I will now draw out the features of the framework. Despite the wide variety of objectives and strategies contained within the each pollution control ordinance, there are some common features, both substantive and procedural. They are:

1. Specialized and medium-based

Firstly, these pollution control statutes, being specialized in nature, affect only a single medium, as contrary to long-term improvement of the environment as a whole. They pay little regard to the possible consequences of imposing control on one medium in relation to others. It has been thus argued that this legislative framework "is not integrated and its preoccupation with pollution control means it does not control all environmental wrongs and does not provide all data necessary for strategic advice on an integrated environmental policy"²⁰⁰.

2. Affects some but not all discharges

Secondly, the licensing procedures, which operate to sanction pollution discharges into the environment, represent the basic control mechanism of this specialized environmental legislation. However, such a permissive system, in certain circumstances, affects only some, but not all discharges. For example, the Air Pollution Control Ordinance applies only to stationery sources of atmospheric pollution, while pollution from ships, motor vehicles and aircraft is excluded²⁰¹. It is therefore impossible to take a comprehensive approach to achieving the air quality objectives.

3. Lack of coordination between these pollution control legislation

¹⁹⁸ Schedule 2, Environmental Impact Assessment Ordinance (Cap. 499). The projects listed in this schedule are generally large -scale construction and operation (Part I of Schedule 2) and decommission (Part II of Schedule 2) projects. These projects must produce and have approved an environmental impact assessment report and must be issued with an environmental permit before the project can commence. See also sections 9 and 10, *Ibid*.
¹⁹⁹ Schedule 3, *ibid*. Two kinds of projects are listed in this schedule. They are, firstly, engineering feasibility study of

¹⁹⁹ Schedule 3, *ibid*. Two kinds of projects are listed in this schedule. They are, firstly, engineering feasibility study of urban development projects with a study area covering more than 20 hectares or involving a total of population of more than 100,000. Secondly, engineering feasibility study of redevelopment projects with a study area covering more than 100,000 existing or new programs. These projects must produce and have approved an environmental impact assessment report, but environmental permit is not required.

²⁰⁰ Mottershead, *Hong Kong Lawyer*, supra 89, at 82.

²⁰¹ There are other ancillary statutory controls that regulate these sources. See Road Traffic Ordinance (Cap. 374); Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374A) and Shipping and Port Control Ordinance (Cap. 313).

Thirdly, there is a lack of coordination between the pollution control legislative requirements, even though they share common objectives.

4. Tackles symptoms rather than causes

Fourthly, the legislations have been directed at tackling the symptoms rather than the causes of pollution.

5. Light penalties and ineffective enforcement

Fifthly, the current penalties for violating environmental regulations are not severe²⁰², even repeat offenders escaping with fines of only a few thousand dollars ²⁰³. They are therefore inadequate to deter offenders. Some offenders may treat the low fines as operating costs in running a business²⁰⁴. It may even be easier for companies to pay up rather than spend money on tackling the problems. It was reported that some of the biggest names in Hong Kong's construction industry had been convicted and fined for more than 30 times in the past three years, but paid fines as low as HK\$10,000 each time they were caught²⁰⁵. In a similar vein, although under the Water Pollution Control Ordinance, polluters may be required to restore or pay the costs to restore water to its condition before the commission of the offence 206, this section of the law has never been enforced²⁰⁷.

6. **Overlapping controls**

Lastly, eighteen different statutes are relevant to the control of pollution in Hong Kong²⁰⁸. With such a large number of legislative controls, it is not surprising that they address pollution-creating activities in different ways. This has often resulted in costly delays and duplication of efforts.

²⁰² The average fine meted out for breaching the Protection of Ozone Layer Ordinance in 2002 was HK\$13,333. The average fine meted out for breaching the specified process requirement under the Air Pollution Control Ordinance in 2002 was HK\$10,875. See Environmental Protection Department, Environment Hong Kong 2003 (Resource Material), available at http://www.epd.gov.hk/epd/misc/ehk03/index.html (last visited on 30 March 2004). The average fine meted out for violating the Water Pollution Control in 2001 was HK\$20,224. And, so far, only one custodial sentence, for 14 days, has been imposed for breaching the Waste Disposal Ordinance. See Environmental Protection Department, Environment Hong Kong 2002 (Hong Kong: Printing Department, 2002), para 8.2.

²⁰³ In January 2003, construction giant Gammon Skanska was convicted of contravening the terms of its licence under the Water Pollution Control Ordinance for eighth time since January 2001 and was merely ordered to pay an \$8,000 fine. See Heike Philips, "Courts treat polluters lightly", South China Morning Post, 4th March 2003, at 4.

²⁰⁴ See Berry F. C. Hsu and Anita M. M. Liu, "Trade, Sustainability, and the WTO: Environmental Protection in the Hong Kong SAR" (2001) 20 UCLA Journal of Environmental Law and Policy 187, at 210-211.

²⁰⁵ Heike Philips, "Building giants are exposed as serial polluters; the worst offenders have been fined 30 times but still land multi-million-dollar contracts", South China Morning Post 27th July 2003, at 1. The writer also reported that while the Hong Kong Construction (Holdings), which is one of the city's largest publicly listed construction companies, had a bad record of 31 convictions under the Noise Control Ordinance and eight under the Air Pollution Ordinance since January 2000, it nevertheless successfully tendered for the HK\$3.9 billion joint-venture contract with the Civil Engineering Department for reclamation work at Penny's Bay, Lantau Island, to pave the way for the construction of Disneyland.

 ²⁰⁶ Sections 13 and 13A, Water Pollution Control Ordinance.
 ²⁰⁷ Heike Philips, *South China Morning Post*, 27th July 2003, supra note 207.

²⁰⁸ Thev are: Buildings Ordinance (Cap. 123); Country Park Ordinance (Cap. 208); Dangerous Drug Ordinance (Cap. 134); Dangerous Good Ordinance (Cap. 295); Dumping at Sea Ordinance (Cap. 466); Fisheries Protection Ordinance (Cap. 171); Foreshores and Sea Bed (Reclamations) Ordinance (Cap. 313); Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap. 413); Ozone Layer Protection Ordinance (Cap. 403); Pesticide Ordinance (Cap. 133);

Recent efforts in integrated enforcement: regulatory relief rather than reform

Firstly, starting from 1996, the Environmental Protection Department inspectors are trained and equipped to conduct multi-disciplinary pollution control inspections, instead of the previous singlemedium inspection, in order to optimize the use of staff resources and minimize the disturbances to the premises being visited²⁰⁹. Secondly, in 1997, the Environmental Protection Department's onestop-shop service was introduced at six Environmental Protection Department's Local Control Offices to accept applications for environmental licences or permits relating to construction sites irrespective of location²¹⁰. This service was extended to cover all pollution control licence applications, and to all Local Control Offices, Southern Certre, Revenue Tower and World Trade Square²¹¹. This service is aimed at streamlining the licence and permit application procedures.

However, implicit in these efficiency-oriented reforms was a desire to alleviate the regulatory burdens that had been imposed on businesses and industries. It has minimized some regulatory excesses, but does not promote more an integrated environmental management.

D. Limited Policy Actions

Fragmentation has been the prevailing pattern in the formulation and implementation of Hong Kong's environmental policy. Rather than following a comprehensive and coordinated approach toward an integrated environmental management system, environmental policy in Hong Kong has been driven by responses to a variety of local problems, resulting in a series of loosely linked media-based pollution control measures and splintered into numerous programs, addressing air, water, land pollution problems separately²¹². Thus, water pollution is monitored and regulated independently from land pollution, while air pollution is addressed separated from both. And within each medium, a complicated set of programs has been developed, but with only limited interaction among them²¹³.

Such fragmentation is not exclusive to environmental policy. Numerous other policy areas, such as health care ²¹⁴ and town planning ²¹⁵, have also proven similarly difficult to approach comprehensively. Programs in these other sectors may, in fact, be every bit as resistant to an integrated environmental policy.

Pharmacy and Poisons Ordinance (Cap. 138); Public Health and Municipal Services Ordinance (Cap. 132); Radiation Ordinance (Cap. 303); Road Traffic Ordinance (Cap. 374); Shipping and Port Control Ordinance (Cap. 313); Summary Offences Ordinance (Cap. 228); Town Planning Ordinance (Cap. 131); and Waterworks Ordinance (Cap. 102).

²⁰⁹ See Planning, Environment and Lands Branch, *Heading Towards Sustainability: the Third Review of Progress on the 1989 White Paper: Pollution in Hong Kong – a time to act* (Hong Kong: Planning, Environment and Lands Branch, 1996), at para 2.65-2.66.

²¹⁰ See Environmental Protection Department, *Milestones*, supra note 153.

²¹¹ *Ibid.*

²¹² See Peter Hills and William Barron, "Hong Kong: the challenge of sustainability", supra note 151, at 43-44. See also Peter Hills and Richard Welford, "Ecological modernisation", supra note 124, at 326 and Peter Hills, "Environmental Policy and Planning in Hong Kong: an Emerging Regional Agenda" (2002) 10 *Sustainable Development* 171, at 171. ²¹³ See Peter Hills and William Barron, *ibid*, at 44.

 ²¹⁴ See Ian Holliday and Tam Wai-keung, "Fragmentation in the Hong Kong Health Care System: Myth and Reality" (2000) 22 Asian Journal of Public Administration 161.
 ²¹⁵ See Lawrence Wai-chung Lai, Town Planning in Hong Kong: a critical review (Hong Kong: City University of

²¹³ See Lawrence Wai-chung Lai, *Town Planning in Hong Kong: a critical review* (Hong Kong: City University of Hong Kong Press, 1997).

In fact, Hong Kong has produced numerous environmental policy-like documents seeking to formulate a long-term comprehensive plan to tackle environmental issues in Hong Kong. Two of particular importance will now be discussed.

Key environmental policy-like documents – White Paper on Pollution in Hong Kong a.

The first public document evidencing a comprehensive plan to control pollution was the 1989 White Paper on pollution in Hong Kong - a time to act²¹⁶. However, even the White Paper set out some one hundred initiatives in its ten-year long-term plan to tackle Hong Kong's pollution problems²¹⁷, these initiatives were highly specialized, largely autonomous components and related directly to controlling pollution of different types which were divided, by medium, into groups – including waste manage ment, water quality and sewerage, air quality and noise²¹⁸. Thus, it did not form a holistic approach towards managing the environment, rather much of the initiatives were directed at tackling the symptoms than the causes of problems.

The 1989 White Paper also contained a promise that progress with the implementation of the ten-year plan would be reviewed every two years. Reviews have indeed been prepared and published in 1991²¹⁹, 1993²²⁰, 1996²²¹ and 1999²²². However, these roughly biennial reviews of progress focus, principally, on the extent to which the specialized initiatives in 1989 White Paper have been met²²³ rather than develop and modify the strategies to manage the environment as a whole. The concept of integrated pollution control was first and only mentioned in the third review of the white paper in 1996²²⁴. However, it has been narrowly interpreted as most relevant in the cases of power stations and construction sites²²⁵ and has been wrongly claimed as covered in Environmental Impact Assessment legislation²²⁶, "one-stop-shop services"²²⁷ and multi-disciplinary pollution control inspections²²⁸. It, therefore, has been contended that the White Paper failed to formulate a comprehensive environmental policy²²⁹. It has also been argued that it has only from time to time launched initiatives to bring types by types of pollution under control and this has proceeded in an "ad hoc and crisis management manner"²³⁰.

²¹⁶ Hong Kong Government, White Paper: Pollution in Hong Kong – A Time to Act (Hong Kong: Hong Kong Government Printer, 1989).

²¹⁷ See *Ibid*., para 9.1-9.3 for a summary of the main initiatives described in the White Paper. ²¹⁸ *Ibid*.

²¹⁹ Planning, Environment and Lands Branch, Saving our Environment: the First Review of Progress on the 1989 White Paper: Pollution in Hong Kong – a time to act (Hong Kong: Planning, Environment and Lands Branch, 1991).

²²⁰ Planning, Environment and Lands Branch, *The Hong Kong Environment: A Green Challenge for the Community:* the Second Review of Progress on the 1989 White Paper: Pollution in Hong Kong – a time to act (Hong Kong: Planning, Environment and Lands Branch, 1993).

²²¹ Planning, Environment and Lands Branch, Heading Towards Sustainability: the Third Review of Progress on the 1989 White Paper: Pollution in Hong Kong - a time to act (Hong Kong: Planning, Environment and Lands Branch, 1996).

²²² Planning, Environment and Lands Bureau, Sustainable Development: a Green Future: the Fourth Review of Progress on the 1989 White Paper: Pollution in Hong Kong- a time to act (Hong Kong: Planning, Environment and Lands Bureau, 1999). ²²³ Peter Hills and William Barron, supra note 151, at 44.

²²⁴ See Third Review of Progress on the 1989 White Paper, supra note 225, para 2.65.

²²⁵ *Ibid*.

²²⁶ *Ibid.* ²²⁷ *Ibid.*

²²⁸*Ibid.*, para 2.66.

²²⁹ Peter Hills and William Barron, supra note 151, at 44.

²³⁰ *Ibid*

Key environmental policy-like documents – Sustainable Development for the 21st b. **Century Study**

In the September of 1997, the government of Hong Kong SAR authorized the Environmental Resources Management Limited, a consulting firm, to commit a study named the Study on Sustainable Development for the 21st Century in Hong Kong ("the SUSDEV21 Study"). Although reference was made in the study to the question of drawing up an integrated strategy for sustainable development, the main purpose of the study is to incorporate the concept of sustainability, including pollution control issues, into all government's decision-making processes, by developing a systematic process that would enable the decision makers in the government to take a good account of environmental and social concerns, as well as economic implications, when planning for Hong Kong's future development²³¹. And the specific objectives settled by the study are²³².

- To develop a definition of sustainable development for Hong Kong
- To establish the baseline conditions in Hong Kong reflecting the current state of sustainability
- To develop guiding principles and indicators of sustainable development
- To develop a computer-based decision support tools to assist Government Bureaux and Departments in assessing the implications of their policies and projects which make up sustainable development
- To recommend government institutional changes for better account of sustainable development issues
- To enhance public awareness about sustainable development²³³

The SUSDEV21 Study could be regarded as the most dedicated and proactive study in the past decade. It is the first public document evidencing the recognition of the need for an integrated or comprehensive environmental policy to deal with the complexity and interrelatedness of environmental problems in Hong Kong. It also recognizes the need to integrate environmental considerations into social and economic decision-making, which has been categorized as "external integration"²³⁴.

After more than three years of research works and consultation, the SUSDEV21 study was finally concluded and its Final Report was delivered to public in August 2000. Although the Study has, in several aspects, sought to integrate the pollution control system in Hong Kong in the dimension of external integration, those most critical areas towards an integrated approach to pollution control has yet to be achieved. Key recommendations of the study will now be discussed.

1. Definition of sustainable development

Sustainable development has been defined by the SUSDEV21 Study as to "[balance] social, economic, environmental and resource needs, both for present and future generations, simultaneously achieving a vibrant economy, social progress and a high quality environment, locally, nationally and internationally, through the efforts of the community and the Government". However, the definition proposed that economic, social and environmental considerations in Hong Kong should be "balanced" rather than "integrated". It has been criticized that this seems to suggest

²³¹ HKSAR, Sustainable Development for the 21st Century: Final Report (Hong Kong: Environmental Resources Management, 2000), at para 1.3 [hereinafter SUSDEV21 Final Report]. ²³² SUSDEV21 Final Report, para 1.3. ²³³ All of the objectives feel broadly within the ambit of the Rio Documents, especially the Agenda 21.

²³⁴ See notes 72-77 above and their respective texts.

that "either Hong Kong is not aware of the debate about integrating rather than balancing these considerations, or that the environment is not perceived ... in line with progressive international thinking" ²³⁵. In fact, as noted in section one above, there is commonly recognized that environmental consideration should be integrated into non-environmental sectors, including economic and social sectors and was restated in the recent World Summit on Sustainable Development.

2. Eight guiding principles and thirty -nine indicators

The study has then identified eight guiding principles²³⁶ to translate the definition of sustainable development into more expansive phrases and thirty-nine indicators corresponding to the guiding principles²³⁷ to quantify and assess how sustainable a society's activities are over time. However,

⁷ See also *ibid*. There are now altogether thirty-nine sustainability indicators. They are: *1. Economy:* Economic return as determined through costs benefit analysis. Percentage change in income less income tax for the upper quartile household minus the percentage change in income less income tax for the lower quartile. Gross domestic fixed capital formation as a percentage of GDP. Expenditure on primary, tertiary and secondary education as a percentage of GDP. 2. Health and Hygiene: Notification of communicable diseases. In patient discharges and deaths per 100,000 population due to diseases of the respiratory system. 3. Natural Resources: Consumption of energy per unit of output (\$ GDP). Quantity of municipal solid waste. The total remaining landfill capacity (by volume). Volume of freshwater supplied per capita. Percentage of demand met by locally-derived freshwater resources. Area of countryside. 4. Society and Social Infrastructure: Average length of waiting list for public rental housing. Median rent to income ratio for private hou sing. Percentage of households residing in inadequate housing. Living space per person. Number of registered volunteers. Waiting lists for Residential Care Homes for the Elderly. Number of student members of civic education and community services organisat ions. Proportion of people of working age who have received postsecondary education or above. 5. Biodiversity: Area of Hong Kong of high terrestrial ecological value. Area of Hong Kong of high marine ecological value. Area of managed terrestrial habitat for conservation. Area of managed marine habitat for conservation. 6. Leisure and Cultural Vibrancy: Number of recorded archaeological sites. Number of recorded cultural and historical sites. Percentage of population living within districts with a shortfall of required provision of open space. Annual ticket sales for major cultural, entertainment and sporting events. 7. Environmental Quality: Composite index for Criteria Air Pollutants based on percentage of the Air Quality Objectives. Composite index for Toxic Air Pollutants based on percentage of Acceptable Risk. Quantity (Tonnes) of carbon dioxide emitted per year. Percentage of population exposed to excessive noise. Percentage of EPD's river monitoring stations ranked "Excellent" or "Good" using the EPD's Water Quality Index. Composite index of marine water quality pollutants based on percentage of the Water Quality Objectives. Number of beach-days per year ranked "Good" or "Fair". 8. Mobility:

²³⁵ See Terri Mottershead and Adrienne La Grange, "Developing a Strategic Framework for Sustainable Development in Hong Kong: Is an Earth Charter the Answer?" (2000) 9 *Public Administration and Policy* 37, at 49-50.

²³⁶ See Council for Sustainable Development, Strategy Sub-committee, "Susdev21" and Principles for the Drawing up of a Sustainable Development Strategy, Paper 02/03, available at http://www.susdev.gov.hk/html/en/council/index.htm (last visited on 30 March 2004). The eight guiding principles are: 1. Economy: Hong Kong should achieve a competitive and prosperous market -based economy, which provides the resources to meet the needs and aspirations of the population, both now and in the future. 2. Health and Hygiene: Hong Kong should provide a living and working environment and pursue policies, which promote and protect the physical and mental health and safety of the people of Hong Kong. 3. Natural Resources: Hong Kong should promote the sustainable use of natural resources to minimise its ecological footprint through improving consumption efficiency, minimising the use of non-renewable resources and reusing, recycling waste and recovering energy from wastes. 4. Society and Social Infrastructure: Hong Kong should foster a stable, equitable, ethical and progressive society and enable present and future individuals to contribute to and fulfil their potential by providing universal access to adequate and appropriate educational opportunity and social infrastructure. 5. Biodiversity: To maintain the biodiversity of Hong Kong and to minimise any threat which consumption in Hong Kong may have on biodiversity elsewhere. 6. Leisure and Cultural Vibrancy: Protect and enhance the vibrancy of Hong Kong's recreational opportunities, leisure activities, cultural diversity, archaeological, historical and architectural assets. 7. Environmental Quality: Hong Kong should be pro-active in avoiding environmental problems for present and future generations, seek to find opportunities to enhance environmental quality, and minimise the unwanted side effects, locally, nationally and internationally, of development and inefficiencies such as air, noise and water pollution or land contamination. 8. Mobility: Hong Kong should provide safe, accessible, efficient and clean transport systems and pedestrian facilities along with an efficient transport network for the movement of goods and facilitation of services for the community.

these principles and indicator are restrictive. Many environmental, social and economic issues of sustainable development are not included, which is necessary for a full integration of environmental considerations in decision-making at all levels of the government. For example, in pollution control aspects, the related environmental quality indicators are dominated by air pollution issues.

3. Computer Aided Sustainability Evaluation Tool

The study has developed a set of Computer Aided Sustainability Evaluation Tool ("CASET"), building upon the above guiding principles and sustainability indicators. The computer tool is designed to be used as a decision making tool by the bureaux and departments in developing policy or programmes²³⁸. There is provision within CASET to add, delete or modify indicators, including those concerning pollution issues, and arrive at the likely outcomes of whether to carry out the decision or not 239 .

However, serious concerns remain about the use of CASET. The CASET is over-simplified and its assessment process does not involve participation from public²⁴⁰. The CASET merely provide the officials with am alternative mean to measure the sustainability of their policies or programs. It is not a transparent assessment process that involves the participation and check-and-balance from the community. Little is known about how the computer tool will be employed. In fact, the implementation of the tool is largely subject to the discretion of the officials²⁴¹. Firstly, those eight guiding-principles and thirty-nine sustainability indicators are merely matters to be considered in the decision-making process, how they will be interpreted is subject to the arbitrary discretion of the decision makers. Secondly, for the computer tool to operate, certain assumptions will have to be used to run various scenarios and are fundamental to the likely outcomes. Therefore, how these assumptions will be arisen is also subject to the arbitrary discretion of the decision makers. As such, sectoral interests inherent in the bureaucracy can hardly be avoided and the computer tool cannot function effectively to fully integrate environmental considerations into non-environmental sectors.

In addition, as mentioned above, the principles and indicators are controversial. It is doubtful that the computer tool can assess sustainability accurately.

Council for Sustainable Development and Sustainable Development Unit 4.

The study also recommended the establishment of a Council for Sustainable Development advise the Government on sustainable issues and a Sustainable Development Unit to oversee the Sustainability Assessment System and facilitate the use of CASET in the government. The Sustainable Development Unit was established under the Chief Secretary for Administration in April 2001 while the Council for Sustainable Development was established by the Chief Executive in March 2003.

Average Travel Distances; the distance in kilometres travelled by passengers during morning peak by all major groups of transport modes. Average Network Speed; calculated as total passenger kilometres divided by total passenger hours. The cost of road-based freight transport; the cost of charges and operating costs as a percentage of GDP. ²³⁸ See SUSDEV21 Final Report, para 9.2.1.

²³⁹ See *ibid.*, para 9.2.1-9.2.2.

²⁴⁰ See "Computer Impact Assessment System under fire", *South China Morning Post*, 30th December 2002.

²⁴¹ See Conservancy Association, *Position Paper* on Sustainable Development for the 21st Century, 3rd July 2001 (in Chinese), available at http://www.conservancy.org.hk (last visited on 30 March 2004).

It was initially expected that the Council for Sustainable Development and the Sustainable Development Unit would be the catalysts for the much needed co-ordination and cooperation between the government bureaux and departments. It was also expected that they could bring about the external integration in the government. However, a numbers of substantive improvements should be made.

Firstly, this is a need to better connect and introduce the work of Council for Sustainable Development into the policy-making process. The Council is now merely an advisory body. The term of reference of the Council are to advise the Government on the areas it should address in promoting sustainable development and the preparation of a sustainable development strategy for Hong Kong²⁴². However, it is not clear to what degree the Government would actively take up its advices. There is a fear that the advices from the Council may merely be an academic exercise, interesting but ultimately irrelevant to real decisions.

Secondly, there is a potential conflict of roles between the Council for Sustainable Development and the Sustainable Development Unit²⁴³. Their roles are both broadly defined as responsible for the integration of sustainable development into new Government initiative and programmes²⁴⁴. Moreover, there is also potential conflict of their roles compared with that of the Central Policy Unit (especially the work of its Commission on Strategic Development²⁴⁵), the Planning Department (especially the work of Hong Kong 2003: Planning Vision and Strategy Study²⁴⁶) and the Advisory Council on the Environment (especially its term of reference to advise the Government on appropriate measures which might be taken to combat pollution of all kinds, and to protect and sustain the environment²⁴⁷). Thus, the roles of the Council for Sustainable Development unit should be clarified. If their roles are not well-defined, more fragmentation rather than coordination will be created. And this will impede the external integration that is intended to bring about by the SUSDEV21 Study.

E. Evaluation of the Pollution Control System in Hong Kong

The entire approach to pollution control is influenced by a philosophy of "passive nonintervention" or "laissez-faire", which espouses the strengthening of pollution controls as economic circumstances, the will of firms and market allows. The programs and legislation to control pollution was enacted to solve environmental problems as they had arisen, on problem-solving basis, therefore leading to a fragmented and sectoral approach to pollution control.

²⁴² See generally Council for Sustainable Development website at <u>http://www.susdev.gov.hk/html/en/council/index.htm</u> (last visited on 30 March 2004).

²⁴³ See Terri Mottershead, "Sustainable Development in Hong Kong – A Road Yet to be Travelled?" [2002] 6 Singapore Journal of International and Comparative Law 809, at 832 and Terri Mottershead, "The Council on Sustainable Development in Hong Kong: So Close and Yet So Far" (2001) 10 Public Administration and Policy 33, at 46.

²⁴⁶.
²⁴⁴ See also Council for Sustainable Development website at http://www.susdev.gov.hk/html/en/council/index.htm (last visited on 30 March 2004).
²⁴⁵ See Central Policy Unit website at <u>http://www.info.gov.hk/cpu/english/csd.htm</u> (last visited on 30 March 2004). The

²⁴³ See Central Policy Unit website at <u>http://www.info.gov.hk/cpu/english/csd.htm</u> (last visited on 30 March 2004). The Commission on Strategic Development is responsible to do research on the issues that will impact on Hong Kong's development over the next 30 years as well as a recommended strategic framework in Hong Kong.

 ²⁴⁶ See Planning Department website at <u>http://www.info.gov.hk/planning/index_e.htm</u> (last visited on 30 March 2004).
 The Hong Kong 2003: Planning Vision and Strategy Study is a comprehensive review of Hong Kong's Territorial Development Strategy which is a spatial, physical development plan setting out how much, what type, where and when development land and supporting infrastructure should be provided in the next 30 years.
 ²⁴⁷ See Environment, Transport and Works Bureau website at <u>http://www.etwb.gov.hk/</u> [hereinafter boards and

²⁴⁷ See Environment, Transport and Works Bureau website at <u>http://www.etwb.gov.hk/</u> [hereinafter boards and committees] (last visited on 30 March 2004).

Organizational integration a.

As defined, organizational integration is divided into horizontal organizational integration (among agencies of same levels of government) and vertical organizational integration (among agencies of different levels of government)²⁴⁸.

1. Horizontal organizational integration

As discussed above, for policy-making institutional structure, responsibility for pollutionrelated policy is split among three bureaux, namely, the Environmental, Transport and Works Bureau, the Housing, Planning and Lands Bureau and the Education and Manpower Bureau. For executive institutional structure, it is even more fragmented. While the Environmental Protection Department is responsible for enforcing the three specialized statutes, namely the Air Pollution Control Ordinance, the Water Pollution Control Ordinance and the Waste Disposal Ordinance, seventeen other departments also work on programs relating to pollution control. With so many departments and bureaux, with different and overlapping enforcement powers, it leads to the problems of inefficiency, role conflicts and confused lines of responsibility. Thus, horizontal organizational integration should be made to ensure coordination among governmental agencies or to consolidate the functions of various agencies.

2. Vertical organizational integration

As noted in the SUSDEV21 Final Report²⁴⁹, communication barriers exist among different bureaux and departments. So that it is not always possible to meet "all the apparently legitimate but competing demands for change and response at the same time and with equal emphasis"²⁵⁰. Moreover, given that communication barriers exist among bureaux, inconsistencies and conflicts of instructions from the bureaux above may occur, since certain governmental departments are responsible to two or more bureaux²⁵¹. Thus, vertical organizational integration in terms of sharing information, in terms of enhancing communication among different levels of government during the process of policy and plan preparation, and in terms of resolving conflicts should be carried out.

3. *Participative integration*

As defined, vertical organizational integration in its broadest sense may even encompass public participation ²⁵². However, in Hong Kong, public participation is limited. The Government has exclusive right discretion to determine the overall or particular environmental quality objectives and standards applied to the anti-pollution control ordinances²⁵³. The public has no real right to question whether these standards are acceptable through public hearing or litigation²⁵⁴. The public

²⁴⁸ See notes 61-71 above and respective texts.

²⁴⁹ See SUSDEV21 Final Report, Box 8.4a.

²⁵⁰ *Ibid.*, para 8.4.1.

²⁵¹ Agriculture, Fisheries and Conservation Department; Architectural Services Department; Civil Engineering Department; Customs and Excise Department; Electrical and Mechanical Services Department; and Territory Development Department.

 ²⁵² See note 68 above and respective texts
 ²⁵³ See Bachner, "Toward a Law of Sustainable Development in Hong Kong", supra note 97, at 397.

²⁵⁴ Ihid

is not permitted to "prosecute" environmental legislative provisions against polluters when the government can or will not. And in the consultation process of major environmental policy-like documents, voices from the grass roots are not heard sufficiently. For example, in the SUSDEV21 Study, the community is excluded in the formulation of the Study's scope and objectives²⁵⁵.

Substantive integration b.

As illustrated above, substantive integration can be achieved by bringing all separate sectoral environmental laws together in one legislative document, forming a generalized environmental protection act to provide for general rules, applying to environmental sectors, with respect to the licensing and standard-setting procedures, and enforcement mechanisms. Or, in weak sense, achieved by restructuring of existing procedures, forming a general act to provide similar procedures, appeals and enforcement mechanisms.

However, Hong Kong has neither an integrated pollution ordinance, nor a general act for procedures. In contrast, pollution is regulated mostly by three specialized statutes. They are, namely, the Air Pollution Control Ordinance, Water Pollution Control Ordinance and Waste Disposal Ordinance. These specialized statutes, being medium-based in nature, based on the medium of air, water and land respectively, have the problems of ignoring the cross-media effects. Moreover, these statutes fail to cover all the sources of discharges. For examples, emissions from vehicles are not covered. Furthermore, nineteen other statutes, with different legislative intents, are also directly or indirectly, related to pollution control, leading to a conflicting and overlapping control regime.

Although Hong Kong has moved towards a more integrated and coordinated approach toward pollution control with the adoption of multi-disciplinary pollution control inspections and one-stopshop service for environmental licences and permits, integration and coordination has only been partial, as has been illustrated above. Although, the inspection and application procedures have been unified, the environmental licences and permits have not. Different types of pollution are still being controlled separately. Thus, Hong Kong is still far from complete substantive integration²⁵⁶. And fragmentation remains as notable problem of Hong Kong's legislative framework. To solve this problem, substantive integration is necessary.

External integration c.

As defined above, external integration is the integration of environmental consideration into non-environmental sectors. The Study on Sustainable Development for the 21st Century ("SUSDEV21 Study") reflects this dimension of integration to integrate environmental considerations into social, economic and cultural sectors. The Study is designed to enhance existing decision-making procedures to ensure that considerations from all sectors will be taken into account for the appraisal of policy or program proposals. The Study was conceived to be groundbreaking step towards sustainable development in Hong Kong. Its production has taken some forty millions Hong Kong dollars and has taken more than three years of research and consultation. But the implementation and functioning of the Study's recommendations have been troubled. The original hope has given way to a mix of reactions, including disgruntlement²⁵⁷.

²⁵⁵ See Mottershead and Grange, "Developing a Strategic Framework for Sustainable Development in Hong Kong: Is an Earth Charter the Answer?", supra note 239, at 50. ²⁵⁶ For the definition of substantive integration, see notes 52-60 above and respective texts. ²⁵⁷ See "Sustaining the dream", *South China Morning Post*, 23rd March 1998, at 19; "Computer Impact Assessment

System under fire", South China Morning Post, 30th December 2002; Friends of the Earth (Hong Kong), Position

The restrictiveness of the guiding principles and sustainability indicators are at the root of the most serious difficulties experienced with the Study's recommendations. The over-simplification and lack of transparency of the Computer Aided Sustainability Evaluation Tool have produced doubt and uncertainty. The allocation of responsibilities to the Council for Sustainable Development and the Sustainable Development Unit is unclear and overlapping.

In fact, full external integration requires more than a decision support tool. There is neither any guidance nor even a method for external integration in Hong Kong. External integration is not recognized in any statutory instrument and Hong Kong has never had a clear and unambiguous long-term and cross-sectoral sustainable strategy. There is still a long way to full external integration in Hong Kong.

d. Summary

In sum, Hong Kong has fragmented institutions, policies and laws. This absence of integration generally results in inaccurate decisions which are not arrived at after full consideration of all available and relevant information, by a collective mind-set that embrace interactions from all parties involved. The absence of integration therefore impairs administrative, legal and policy capacity of a government, and the inputs from the citizens.

Section three below draws upon the New Zealand experiences with its Resource Management Act as a model for Hong Kong. It explores the key components of integrated resource management in New Zealand and examines how the New Zealand forged a consensus among diverse groups for the need to form an innovative and integrated environmental management system. It hopes lessons for Hong Kong can be generated from the experiences of New Zealand.

III. New Zealand's Resource Management Act 1991 ("RMA")

It should be, at the beginning, noted that the New Zealand's *Resource Management Act* 1991 (the "RMA"²⁵⁸) is not a legislation that deal merely with pollution issues. It brings together many different aspects of environmental management, such as land use, land planning, conservation, water use and pollution control, in order to standardize, rationalize and simplify procedures. The RMA states a common purpose and principles, and then establishes the procedures through which authorities are to make decision to pursue the purpose and principles. All of these equally apply to different aspects of environmental management, including pollution control.

In this section, I propose to give an analytic overview of the RMA of New Zealand, focusing on pollution control. I will first provide a summary of the major sections of the RMA related to pollution control. I will then identify the most distinctive characteristics of the legislation. After that, I will assess its dimensions of integration, in term of the substantive, organizational and external integration discussed in section one above.

Paper on Sustainable Development for the 21st Century, 31st January 2000, available at <u>http://www.foe.org.hk</u> (last visited on 30 March 2004). and Conservancy Association, *Position Paper* on Sustainable Development for the 21st Century, 3rd July 2001 (in Chinese), available at <u>http://www.conservancy.org.hk</u> (last visited on 30 March 2004). ²⁵⁸ Hereinafter "the RMA" or "the Act".

A. Reasons for reform in New Zealand

Under the former institutional and legal regime, the approach to environmental management and pollution control in New Zealand shared the similar problems as in Hong Kong. It was fragmented and uncoordinated²⁵⁹. There were over 100 statutes having particular relevance to the environment²⁶⁰ and various governmental bodies and agencies at the national, regional and local levels held mandate to the environment²⁶¹. These prescriptive and overlapping controls led to a demand for a simpler, clearer and more rational system.

New Zealand has thus adopted significant and innovative changes to its approach to environmental management and pollution control over the past decade. Among the most fundamental changes was the enactment of the *Resource Management Act* in 1991²⁶². The Act was an attempt to restate and reform the laws and institutions relating to the use of air, water and land. The Act ambitiously harmonized or unified the New Zealand's environmental law. It replaced more than 20 major statutes and 50 other laws and regulations related to the environment, including laws covering air, water, land and noise pollution²⁶³. The major achievement was the repeal of the *Water* and Soil Conservation Act 1967 (under which water use and management was regulated)²⁶⁴, the Clean Air Act 1972 (under which air pollution was managed)²⁶⁵, and the Town and Country Planning Act 1977 (under which land was managed)²⁶⁶. In a related reform, the New Zealand's administrative structure was also radically rationalized. In the case of central government, core public services were reduced by forty-five percent and many agencies were corporatized or privatised²⁶⁷. Local authorities were rationalized from over eight hundred to eighty-eight²⁶⁸.

Consequently, the RMA has implemented a more consistent, integrated and comprehensive framework for resource use and pollutant discharges, covering various levels of government and involving the use of various types of instruments in relation to policy-making, administrative procedures, governmental structures and legislation. The Act sets out that the environment should be managed based on the idea of the sustainable management of resources²⁶⁹. It deals with the

²⁵⁹ For a review of the former environmental management institutional structure in New Zealand, see Owen Furuseth and Chris Cocklin, "An Institutional Framework for Sustainable Resource Management: the New Zealand Model" (1995) 35 Natural Resources Journal 243 at 249-251. For a historical account of the environmental policy in New Zealand, see Don Bührs, "Strategies for Environmental Policy Co-ordination: the New Zealand Experience" (1991) 43 Political Science 1 at 10-29.

²⁶⁰ Owen and Chris, i*bid.*, at 249.

²⁶¹ *Ibid.*, at 249-251.

²⁶² Full text of the Resource Management Act is available on Statute of New Zealand website at http://www.legislation.co.nz (last visited on 30 March 2004).

²⁶³ See Sixth Schedule (enactments repealed) and Seventh Schedule (regulations and orders revoked) to the RMA for a list of statutes and regulations replaced by the new legislation.

²⁶⁴ Addressed water use and management issues within a multiple use framework and established various regional water boards. ²⁶⁵ Air pollution was separately managed under this Act. It provided for annual licensing of industrial premises to

discharge contaminants into air. ²⁶⁶ Delegat ed responsibilities to direct and control development various territorial authorities through prescriptive land

use plans.

²⁶⁷ See Gow L., New Zealand Resource Management Act: Implementing a Major Planning Law Reform (New Zealand, Ministry for the Environment, 1991) in Asian Development Bank, Capacity Building for Environmental Law in the Asia and Pacific Region: Approaches and Resources, volume 1 (Asian Development Bank, 2rd Edition, 2003), 431 at 431. ²⁶⁸ See the *Local Government Act* 1989.

²⁶⁹ "Sustainable management" is defined by section 5(2) of the RMA. The concept of sustainable management in the RMA provides for a balance between environmental protection and development. The focus of sustainable management

environment as whole, covering the media of air, land and water. It promotes integration across local and central government; and encourages participation at all levels, including full third party and individuals.

B. Summary of the pollution control system under the Resource Management Act²⁷⁰

Under the RMA, pollution control is guided by the principles set out in the Act and the policies set out in any national and regional policy statements. These broader guidelines guide decision makers on whether or not to authorize polluting activities. This decision-making process has been decentralized to local levels, to where is closer to the problem. The RMA provides great flexibility for local authorities to choose the measures, including the making of local regulations, which are most suitable in the specific local circumstance. Public participation is also highly encouraged under the RMA. This makes the Act a more participatory and bottom-up system instead of the previous top-down, rule-laden system.

1. Purpose and principles for pollution control

Pollution control under the RMA is guided by a single overriding purpose, which is "to promote sustainable management of natural and physical resources"²⁷¹. It shall be first noted that the purpose of the Act is "to promote". Clearly the achievement of sustainable management of natural and physical resources is not an absolute requirement for those authorities which exercise functions and powers under the Act. They have achieved the purpose, if, in exercising their functions and powers, have promoted the sustainable management of natural and physical resources.

A definition of the concept of sustainable management is found in section 5(2) of the Act:

"In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety *while* –

²⁷⁰ For general guides on environmental management under the Resource Management Act, see Julie Frieder, Approaching Sustainability: Integrated Environmental Management and New Zealand's Resource Management Act, (Ian Axford New Zealand Fellowship in Public Policy, December 1997), unpublished, available at

²⁷¹ Section 5(1) of the RMA.

is on ecological, and leaves out social or economic considerations. Thus, in this respect, it is narrower than the internationally known concept of "sustainable development". See Heller Anker, "Integrated Resource Management – Lessons for Europe?" [2002] *European Environmental Law Review* 199, at 202.

http://www.fulbright.org.nz/voices/axford/friederj.html; Resource Renewal Institute, New Zealand's Resource Management Act, unpublished, available at

http://greenplans.rri.org/resources/greenplanningarchives/newzealand/newzealand_rma.html; New Zealand Ministry for the Environment, New Zealand Resource Management Act: A Summary, unpublished, available at

http://greenplans.rri.org/resources/greenplanningarchives/newzealand/newzealand_1991_rma_summry.html; New Zealand Ministry for the Environment, *Introduction to the Resource Management Act: Sustainability and the Resource Management Act* (Wellington, New Zealand Ministry for the Environment, 1998), available at

http://www.mfe.govt.nz/publications/rma/; New Zealand Ministry for the Environment, Your Guide to the Resource Management Act: an essential reference for people affected by or interested in the Act (Draft)(Wellington: New Zealand Ministry for the Environment, 1999), available also at http://www.mfe.govt.nz/publications/rma/; New Zealand Ministry for the Environment, The Resource Management Act and You: Getting in On The Act(Wellington, New Zealand Ministry for the Environment, 2001), available also at http://www.mfe.govt.nz/publications/rma/; and Barry Barton, "New Zealand", Chapter 10 in Terri Mottershead (ed.), Environmental Law and Enforcement in the Asia-pacific Rim (Hong Kong: Sweet and Maxwell Asia, 2002), 323-345. All website under this footnote was visited on 30 March 2004.

- Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
- Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and
- Avoiding, remedying, or mitigating any adverse effects of activities on the environment."272

This concept of sustainable mana gement can be divided into two elements²⁷³. Firstly, resources are to be used, developed and protected in a manner that provides for people social, economic and cultural well being and health and safety. This is the "management" element"²⁷⁴. Secondly, the management element is to be carried out while sustaining the potential resources; safeguarding lifesupporting capacity; and avoiding, remedying or mitigation adverse environmental effects. This is the "ecological element"²⁷⁵.

The relationship between the management element and the ecological element has been much disputed²⁷⁶. As Professor Fisher has pointed out that the conjunction "while" between these two elements can have two different meanings. It can be "subordinating", which gives priority to environmental concerns or can be "coordinating", which requires a balancing decision. The Minister of the Environment of New Zealand, who supports the "subordinating" meaning, contended that social, economic and cultural needs should only be met within constraints of the environment²⁷⁷. While, legislative history suggested the otherwise²⁷⁸. The Bill originally introduced to the Parliament supported treating the "while" as a "coordinating conjunction"²⁷⁹. However, even

²⁷⁷ See Gow L., New Zealand Resource Management Act: Implementing a Major Planning Law Reform (New Zealand, Ministry for the Environment, 1991) in Asian Development Bank, Capacity Building, supra note 271, at 432. See also Hon Simon Upton, Address by the Minister for the Environment to the Resource Management Law Association Conference, Wellington, October 7th, 1994, cited in Grundy, "In search of a logic: s. 5 of the Resource Management Act", ibid, at 40. See also David Grinlinton, "Natural Resources Law Reform in New Zealand Integrating Law, Policy and Sustainability" (1995) 2 The Australasian Journal of Natural Resources Law and Policy 1 at 26, who also supports the environmental priority approach.

²⁷⁸ See D. E. Fisher, Resource Management Legislation, supra note 277. See also Nicola R. Wheen, "The Resource Management Act 1991: A 'Greener' Law for Water?" (1997) 1 New Zealand Journal of Environmental Law 165 at n. 96. The author argues that the broadness of the three constraints [section 5(2)(a)-(c)] justifies a balancing exercise between the two limbs [ecological and management elements] of section 5. ²⁷⁹ Clause 4(2) of the Bill to introduce the RMA originally said "sustainable management" means "managing the use,

development and protection of natural and physical resources in a way, or at a rate, which enables people to meet their needs now without compromising the ability of future generations to meet their own needs, and includes the following considerations... (c) The use, development, or protection of natural resources in a way which provides for the social, economic and cultural needs and opportunities of the present and future inhabitants of a community ... (d) where the

²⁷² Section 5(2) of the RMA.

²⁷³ Professor D. E. Fisher, who has made the first major analysis of the RMA shortly after it was passed, identified these two main elements in section 5(2). See D. E. Fisher, "The Resource Management Legislation of 1991: a Juridical Analysis of Its Objectives" in (1991) 1 Brooker's Resource Management, 11-13 and D. E. Fisher, "Clarity in Little 'While'" (November 1991) Terra Nova 50.

²⁷⁴ Ibid. ²⁷⁵ Ibid.

²⁷⁶ See I. H. Williams, "The Resource Management Act 1991: Well Meant But Hardly Done" (2000) 9 Otago Law *Review* 673 at 678. Various authors have also expressed their views on section 5(2) of the RMA. See, for examples, Janet McLean, "New Zealand's Resource Management Act 1991: Process with Purpose?" (1992) 7 Otago Law Review 538; Bruce Harris, "Sustainable Management as an Express Purpose of Environmental Legislation: the New Zealand Attempt" (1993) 8 Otago Law Review 51; Bruce Pardy, "Sustainability: an Ecological Definition for the Resource Management Act 1991" (1993) 15 New Zealand Universities Law Review 351; Kerry James Grundy, "In search of a logic: s 5 of the Resource Management Act" [1995] New Zealand Law Journal 40; Simon Upton, "The Stace Mammond Grace Lecture: Purpose and Principle in the Resource Management Act" (1995) 3 Waikato Law Review 17; Nicola R. Wheen, "The Resource Management Act 1991: A 'Greener' Law for Water?" (1997) 1 New Zealand Journal of Environmental Law 165; John Milligan, "Equity in the Resource Management Act: Section 5, and a 'Capability' Approach to Justice" (2000) 4 New Zealand Journal of Environmental Law 245; John Milligan, "Equity in the Resource Management Act: Section 5, and a 'Capability' Approach to Justice" (2000) 4 New Zealand Journal of Environmental Law 245; and Simon Upon, Helen Atkins and Gerard Willis, "Section 5 re-visited: a critique of Skelton & Memon's analysis" (2002) 10 Resource Management Journal 10.

after more than ten years of implementation of the RMA, the New Zealand courts, which have the power to decide the issue, have not ruled on the interpretation²⁸⁰. The courts seem to have more recently adopted an "overall broad judgment" approach rather than a "balancing" or "environmental priority" approach²⁸¹. This overall approach consists of a broad overall judgment "of whether a proposal would promote the sustainable management of natural and physical resources"²⁸². It is not one involving a balancing the management and ecological elements. It is a matter of weighing the various elements of sustainable management in the context of the particular case²⁸³. Therefore, even if a proposed development fails to meet one or more requirements of section 5(2)(a)-(c) above, it may still be approved if it deemed to constitute sustainable management of natural and physical resources.

Ancillary to section 5 statement of purpose are a number of explicit principles surrounding the concept of sustainable management of natural and physical resources. They are provided on three accompanying lists in the RMA, that is under the sections 6, 7 and 8 of the RMA. These lists provide specific languages concerning how sustainable management is measured. The first one, "matters of national importance"²⁸⁴, is in particularly high regard and must be recognized and provided for by persons exercising functions and powers under the Act. Items included on this list are:

- The preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development;
- The protection of outstanding natural features and landscapes from inappropriate subdivision, use and development;
- The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;
- The maintenance and enhancement of public access to and along the coastal marine area, lakes and rivers;
- The relationship of Maori and their culture and traditions with their ancestral land, water, sites, waahi tapu²⁸⁵, and other taonga²⁸⁶;
- The protection of historic heritage from inappropriate subdivision, use, and development.

The second list, "other matters"²⁸⁷, is of less weight but must still be particularly regarded by persons exercising functions and powers under the RMA. Items included on this list are:

environment is modified by human action, the adverse effects of irreversible change are fully recognised and avoided or mitigated to the extent practicable."

²⁸⁰ The lack of judicial activism to clarify and define section 5 of the RMA has been criticised. See B. V. Harris, "The Law-making Power of the Judiciary", in Philip A. Joseph (ed.), *Essays on the Constitution* (Wellington: Brooker's Limited, 1995).

²⁸¹ North Shore City Council v. Auckland Regional Council [1997] NZRMA 59. In this Environmental Court decision, which relat ed to place certain parts of the North Shore outside the limit of urban development, the Court said, "the method of applying section 5 then involves an overall broad judgment of whether a proposal would promote the sustainable management of natural and physical resources. That recognizes that the Act has a single purpose. Such a judgment allows for comparison of conflicting considerations in the scale or degree of them, and their relative significance or proportion in the final outcome." This overall broad approval was approved on appeal to the High Court of New Zealand. See *Green and McCahill Properties Ltd. v. Auckland Regional Council* [1997] NZRMA 519 at 527.
²⁸² North Shore City Council v. Auckland Regional Council, Ibid, at 94.

²⁸³ Peter Skelton and Ali Mænon, "Adopting Sustainability as an Overarching Environmental Policy: a Review of section 5 of the RMA" (2002) 10 *Resource Management Journal* 1 at 8. Available on Resource Management Law Association of New Zealand website at <u>http://www.rmla.org.nz/library_journal.asp</u> (last visited on 30 March 2004). ²⁸⁴ See section 6 of the RMA (matters of national importance).

 ²⁸⁵ Maori Term, which means scared place. See A. W. Reed, *Concise Maori dictionary: Maori-English, English-Maori* (Wellington: Reed, 1974).
 ²⁸⁶ Maori Term, which means scared treasure, prized possession, property, anything which is highly prized. See *ibid*.

 ²⁶⁰ Maori Term, which means scared treasure, prized possession, property, anything which is highly prized. See *ibid*.
 ²⁸⁷ See section 7 of the RMA (other matters).

- Kaitiakitanga²⁸⁸ which means the exercise of guardianship by tangata whenua²⁸⁹:
- The exercise of stewardship;
- The efficient use and development of natural and physical resources;
- The maintenance and enhancement of amenity values which are those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes;
- Intrinsic values of cosystems which are those values which are not dependent on their value to human:
- Maintenance and enhancement of the quality of the environment;
- Any finite characteristics of natural and physical resources;
- The protection of the habitat of trout and salmon.

The last one, "principles of the Treaty of Waitang?", requires consideration during decisionmaking processes. Items included on this list are:

- The right of iwi and hapu to self-management and control of their resources in accordance with their tribal preferences.
- The duty of the government to actively protect tangata whenua in the use of their resources and taonga²⁹¹.
- The right of the government to govern and make laws
- The principles of partnership and a duty to act in good faith.

It is generally accepted that these three lists are ranked hierarchically in the descending order of importance.

2. Hierarchical structure for pollution control

Following the sections for purpose and principle, Part 3 of the RMA lists a series of activities (the discharge of pollutants is among them²⁹²), which are prohibited unless allowed by a rule, resource consent or regulation²⁹³. The RMA allocates the authority for making the regulations, rules and resource consents concerning pollution issues to the most appropriate level of government who are directly affected by the results²⁹⁴. The RMA identified three levels of roles and responsibilities. The central government is given the power to set national pollution policies and discharge standards. Local authorities, on the other hand, are given the regional/district pollution policymaking, rule-making and administrative responsibilities. Local authorities, for the purpose, are divided into two tiers, regional councils and district/city councils.

Part 5 of the RMA provides details of the various policy and regulatory instruments to be issued by various levels of government discussed above. This has established a three-tier hierarchy of policy statements and plans to guide decision-making activities. The inter-relationship of the various instruments is governed by a rule of hierarchical consistency. In general, instruments prepared by different government entities must be consistent with the policies, methods and objectives of higher-level or same-level instruments.

²⁸⁸ Maori Term, which means stewardship, guardianship. See Reed, supra note 289. For the purpose of the RMA, Kaitiakitanga is defined by section 2 as: the exercise of guardianship by the tangata whenua of an area in accordance

with tikanga Maori (Maori custom) in relation to natural and physical resources; and includes the ethic of stewardship. ²⁸⁹ Maori Term, which means people of the land, people of a given place. See *ibid*.

²⁹⁰ See section 8 of the RMA (Treaty of Waitangi). The Treaty was signed in 1840 between the British and indigenous Maori tribes in New Zealand.²⁹¹ Maori Term, which means scared treasure, prized possession, property, anything which is highly prized Reed, supra

note 289. ²⁹² See section 15 of the RMA (discharge of contaminants into environment).

²⁹³ See generally Part 3 of the RMA (duties and restrictions under this Act).

²⁹⁴ See Part 4 of the RMA (functions, powers and duties of central and local government).

(a) At the central government level

The New Zealand Minister for the Environment is given standard-setting and policy-making powers to recommend the issue of *National Environmental Standards* and *National Policy Statements* on broad matters of national importance, rather than mere local or regional²⁹⁵. The *National Environmental Standards* may prescribe technical standards for pollutant discharges²⁹⁶. They may be qualitative or quantitative standards for discharges to air, land and water, exemptions of certain activities from standards and methods to implement the standards ²⁹⁷. The standards have the binding force of regulations, which means binding force with regard to individuals as well as to regional and district councils²⁹⁸. However, to date, no such environmental standard has been proposed in New Zealand²⁹⁹. In comparison, *National Policy Statements* might be issued to deal with general pollution issues or address a specific pollution issue or polluting site. These statements express national goals and objectives for the environment³⁰⁰ and guide local authorities on issues on national importance³⁰¹. To date, no such policy statement has been prepared in New Zealand³⁰².

The Minister of Conservation is charged with a policy-making role with regard to the pollution issues in coastal estate through preparing the *New Zealand Coastal Policy Statement*³⁰³, as well as a strategic planning role through the duty to approve regional coastal plans ³⁰⁴ and environmental administration for certain coastal activities³⁰⁵. *New Zealand Coastal Policy Statement* is a special national policy statement. It particularly states policies in relation to the coastal environment of New Zealand³⁰⁶. It came into force on 5 May 1994, which sets out a series of general principles for sustainable management of New Zealand's coastal environment and national priorities for the preservation of its natural character³⁰⁷. National policy statements are flexible instruments in that they do not bind individuals. Local authorities, however, must take action to implement national policy statements and ensure their own policy statements or plans are not inconsistent with the m.

²⁹⁵ See section 24 of the RMA (functions of the Minister for the Environment). The New Zealand Ministry for the Environment also provides policy advice and compiles and distributes the information on environmental matters. For details, see generally the New Zealand Ministry for the Environment website at <u>http://www.mfe.govt.nz/</u> (last visited on 30 March 2 004). See also sections 25-27 of the RMA.

²⁹⁶ See section 43 of the RMA (regulations prescribing national environmental standards). See also sections 43A-44 of the RMA.

 $^{^{297}}$ Section 43(2) of the RMA.

²⁹⁸ Section 43(1) of the RMA.

²⁹⁹ As of January 2004. Substantive regulation, however, have been made under section 360 of the RMA: the *Resource Management (Marine Pollution) Regulations* 1998.

³⁰⁰ See section 45 of the RMA (purpose of national policy statements (other than New Zealand coastal policy statements). See also sections 46-55 of the RMA.

³⁰¹ Section 45(1) of the RMA.

³⁰² As of January 2004.

³⁰³ See section 28 of the RMA (functions of the Minister of Conservation). The Department of Conservation also manages New Zealand's other historic and natural conservation estate. For details, see generally the Department of Conservation website at <u>http://www.doc.govt.nz/index.html</u> (last visited on 30 March 2004). See also sections 28A-29 of the RMA.

³⁰⁴ The Minister of Conservation is responsible for approving the regional coastal plans. See section 28(b) of the RMA. ³⁰⁵ The Minister of Conservation is responsible for making decisions on application for coastal permits in relation to the "restricted coastal activities". See section 28(c) of the RMA.

 $^{^{306}}$ See section 56 of the RMA (Purpose of New Zealand coastal policy statements). See also sections 57-58 of the RMA.

RMA. ³⁰⁷ Full text of the New Zealand Coastal Policy Statement is available on RMA-NET website at <u>http://www.rma.co.nz/nzcps/Nzcpsindex.cfm</u> (last visited on 30 March 2004).

The Parliamentary Commissioner for the Environment, though, does not have a direct role to pollution control under the RMA, it has the power to provide advice on pollution issues and the government's pollution control systems, and acts as an "environmental ombudsman" to review the performance of public bodies, such as regional councils under the Act³⁰⁸.

(b) At the regional government level

New Zealand is split into 12 regions. Each region is governed by a regional council. Regional councils are given specific pollution control responsibilities for strategic and operational policymaking, rule-making and administration with the broad objective to achieve integrated management of natural and physical resources of their region³⁰⁹. In particular, they are charged with regional aspects of pollution management³¹⁰; water and land management³¹¹; coastal management³¹². They may, accordingly, develop detailed Regional Policy Statements and Regional Plans regarding specific pollution issues within their region, but only a regional coastal plan is obliged³¹³. For environmental administration, they are responsible for the application of pollutant discharge permit³¹⁴.

Regional Policy Statements provide an overview of the region's pollution issues, and set out the regional councils' expectation on how these issues will be addressed, through the establishment of objectives, policies and methods of implementation³¹⁵. For instance, **t** may draw against the issue of contamination of water in the region and stipulate the way that it will be addressed. These policy statements bind both regional and district council directly and individuals indirectly³¹⁶.

To assist the regional and district councils in implementing the defined objectives and policies contained in Regional Policy Statements, more detailed provisions can be laid down in Regional *Plans*³¹⁷. These plans are of particular importance to pollution control. They set out regional rules concerning discharge of contaminants into the environment³¹⁸. They may include rules that prohibit, regulate or allow polluting activities³¹⁹, for instance, stating certain kinds of discharges exceeding prescribed limits need discharge permits³²⁰. Such rules have the effect of regulations³²¹. Again,

³⁰⁸ This office is outside the executive branch of the government, reporting directly to Parliament. For details, see generally the Parliamentary Commissioner for the Environment website at http://www.pce.govt.nz/(last visited on 30 March 2004).

³⁰⁹ See section 30 of the RMA (functions of regional councils under this Act).

³¹⁰ Section 30(1)(f) of the RMA.

³¹¹ Section 30(1)(c), (e) and (g) of the RMA.

³¹² Section 30(1)(d) of the RMA.

³¹³ See section 64 of the RMA (preparation and change of regional coastal plans).

³¹⁴ They are also responsible for the application of coastal permits, land use permits and water permits. See section 87 (types of resource consents) in conjunction with section 30 of the RMA..

See section 59 of the RMA (purpose of regional policy statements). See also sections 60-62 of the RMA.

³¹⁶ See sections 67(2)(b) and 75(2)(b).

³¹⁷ See section 63 of the RMA (purpose of regional plans). See also sections 64-71 of the RMA.

³¹⁸ See section 15 of the RMA (discharge of contaminants into environment).

³¹⁹ See section 68 of the RMA (regional rules). For the purpose of regional rules, the RMA distinguishes six different categories of activities. They are: permitted activities, controlled activities, restricted discretionary activities, discretionary activities, non-complying activities and prohibited activities. See section 77B of the RMA (types of activities).

³²⁰ See, for examples, t he Wellington Regional Council regional plans to address issues on air quality, discharges to land, and discharges to water. Available on Wellington Regional Council website, environmental management page, at http://www.wrc.govt.nz/em/index.htm (last visited on 30 March 2004). ³²¹Section 68(2) of the RMA.

Regional Plans must give effect to higher-level National Policy Statements and New Zealand *Coastal Policy Statement*³²² and must not be inconsistent with *Regional Policy Statements*³²³.

(c) At the territorial government level

Each of the 12 regions comprises one or more district or city. Each district/city is governed by a territorial authority (district or city council). There are currently 69 district/city councils operating in New Zealand. They have narrower jurisdiction both geographically and environmentally. District/city councils, in turn, are given specific responsibilities for rule -making, though, primarily concerned with the control of the impacts of land use within their district, they are also charged with pollution related duties regarding hazardous substances, noise, and activities on the surface of lakes and rivers³²⁴. Therefore, the *District Plans* developed by the councils are not merely land use plans. They are environmental plans. The RMA mandates the district/city council to prepare District Plans. Regarding administrative roles in relation to pollution, they have to decide on the granting of certain types of resource consents³²⁵.

District Plans describes the district's significant pollution issues and sets out the objectives, policies and methods to address these issues³²⁶. They may promulgate rules that prohibit, regulate or allow polluting activities³²⁷. Such rules have the effect of regulations³²⁸. Again, *District Plans* must give effect to higher-level policy and planning instrument and must not be inconsistent with applicable Regional Policy Statements and Regional Plans³²⁹.

3. A single pollution permit

In addition to national, regional and territorial policy planning and policy instrument, the RMA has also set out a multi-media permit system for all polluting activities, through the requirement to get resource consent under the RMA³³⁰. No person may discharge contaminants to air, land or water without obtaining resource consent (discharge permit) unless expressly permitted by a rule or regulation. Resource consent, in general, is a permission to carry out certain activity, which affects the environment. Resource consent is not required if the activity is either permitted as of right or

 $^{^{322}}$ Sections 62(3) and 67(2) of the RMA.

 $^{^{323}}$ Section 67(2)(c) of the RMA.

³²⁴ See section 31 of the RMA (functions of territorial authorities under this Act).

³²⁵ Land use consents and subdivision consents. See section 87 in conjunction with section 31 of the RMA.

³²⁶ See section 72 of the RMA (purpose of district plans). See also sections 73-77 of the RMA.

³²⁷ See section 76 of the RMA (district rules). As for the purpose of regional rules, the RMA distinguishes six different categories of activities for district rules. They are: permitted activities, controlled activities, restricted discretionary activities, discretionary activities, non-complying activities and prohibited activities. See also section 77B of the RMA (types of activities).

 $[\]frac{328}{229}$ Section 76(2) of the RMA.

³³⁰ See, for general reference, New Zealand Ministry for the Environment, Making Resource Consent Applications (Wellington, New Zealand Ministry for the Environment, 1998), available at http://www.mfe.govt.nz/publications/rma/ (last visited on 30 March 2004).

prohibited under the regional and district plans³³¹. The RMA sets down a common process for all types of resource consents, covering that for discharge permits³³².

The RMA assigns the power to decide on different resource consent applications to the different authorities, mainly to the regional or district councils or both³³³, based on the principle that decision is best carried out at the level closest to the problem. The regional councils are of particular importance. As they have to decide on applications for discharge permits for not permitted discharges of contaminants into environment (other than in a coastal marine area)³³⁴.

The standardized procedure for different resource consent applications is provided in sections 88 to 95 of the RMA. An application must be accompanied by an assessment of the environmental effects to the consent authority³³⁵. In all cases, the assessment required shall be "in such detail as corresponds with the scale and significance of the actual and potential effects that the activity may have on the environment" ³³⁶ and shall be "in accordance with Schedule 4" ³³⁷. The actual and potential effects to the environment are the crucial considerations for the consent authority to determine whether to subject the application to public review and ultimately whether to grant the requested consent. General public will be involved if the proposal in the application has an effect on the environment that is "more than minor"³³⁸.

4. Summary

The RMA express a single overriding purpose to "promote sustainable management". This purpose is set forth in Part II of the Act with other principles that govern pollution control under the RMA regime. Section 6 through 8 enumerate a number of matters that decision-makers, either a public or private body, must consider when discharging their responsibilities under the Act to promote sustainable management.

A bare purpose is gloomy. The RMA, in practice, established a tiered pollution control system in which the local government institutions, the regional and district/city councils, form the most important part. As the implementation and administration of the RMA has largely been carried out by these local authorities. They establish pollution policies and rules of general applicability through policy statements and plans.

At last, the RMA requires polluters to obtain specific permission, i.e. the resource consent, from the appropriate local or regional government authorities. To obtain a resource consent, the applicants must submit a project-specific analysis of the actual and potential environmental effected

³³¹ For this purpose, activities can be categorized as permitted activities, controlled activities, restricted discretionary activities, non-complying activities and prohibited activities under regional or district plans. Resource consents are required for controlled activities, restricted discretionary activities, discret ionary activities and non-complying activities. See section 77B of the RMA (types of activities). ³³² See section 87 of the RMA. There are five types of resource consents: land use consent; subdivision consent; water

permits; discharge permits and coastal permits.³³³ It should be noted the Minister of Conservation has to decide on resource consent application for an activity on the

coast or in the conservation estate. ³³⁴ See section 87(e) in conjunction with section 15 of the RMA.

³³⁵ See Section 88 of the RMA (making an application).

 $^{^{336}}$ Section 88(2)(b) of the RMA.

³³⁷ See *Ibid*., in conjunction with Schedule 4 of the RMA.

³³⁸ See section 93 of the RMA (where public notification of consent applications is required).

that may be caused As such, the RMA has widened the circumstances in which environment impact assessments are required³³⁹.

The hierarchical structure of the RMA and distribution of responsibilities under the RMA is summarized in the charts below.





³³⁹ See Gordon Smith, "The Role of Assessment of Environmental Effects under the Resource Management Act 1991" (1996) 13 *Environmental and Planning Law Journal* 82 at 83.





C. Distinctive characteristics of the pollution control system under the

Resource Management Act

Having given a summary of the pollution control system under the RMA, I will now draw out its distinctive characteristics. For this purpose, it is considered under the following headings: permissive rather than prescriptive approach to legislation, effects-based rather than activities-based approach to pollution control, decentralized rather than centralized approach to pollution control, and pluralist rather than formalist approach to pollution control.

1. Permissive rather than prescriptive approach to legislation

The RMA goes beyond the traditional understanding of public law³⁴⁰, which was about the distribution and exercise of power by the government by prescribed rules of conduct³⁴¹. Instead, the RMA adopts a permissive approach³⁴². The Act theoretic ally allows nearly any activity in any place if it is consistent with the Act's overriding goal of promoting sustainable management of natural and physical resources.

In doing so, the Act uses broad language, for instance, Part 2 of the RMA (purpose and principles). As noted in *New Zealand Rail Limited v. Marlborough District Council*:

"[Part 2] of the Act expresses in ordinary words of wide meaning the overall purpose and principles of the Act. It is not, I think, a part of the Act which should be subjected to strict rules and principles of statutory construction which aim to extract a precise and unique meaning from the words used. There is a *deliberate openness* about the language, its meaning and its connotations which I think is intended to allow the application of policy in a general and broad way." ³⁴³ [Emphasis added]

This "deliberate openness" of the RMA is intended to provide a large extent of flexibility and generality, which enables the local authorities, courts and other actors of the RMA to choose the measures which are most suitable in the specific local circumstances, including the making of local

³⁴¹ The RMA has been referred as an example of a "new public law". See Royden Somerville, "F. W. Guest Memorial Lecture 2001: A Public Law Response to Environmental Risk" (2002) 10 *Otago Law Review* 143 at 147; Ulrich Klein, "Integrated Resource Management in New Zealand – A Juridical Analysis of Policy, Plan and Rule Making under the RMA" (2001) 5 *New Zeal and Journal of Environmental Law* 1 at 17; and McLean, "New Zealand's Resource Management Act 1991: Process with Purpose?", supra note 280, at 539. Nonetheless, "new public law" is not referred as a distinctive characteristic of the RMA in this thesis. It is because it lacks a clear definition of the concept, due to the difficulty to classify what is "new". To some degree, a "new public law" can only be referred to a public law that implies a theory different from the theory of the traditional public law, which is circular. See Peter M. Shane, "Structure, Relationship, Ideology, or How would we know a "New Public Law" if we saw it?" (1991) 89 *Michigan Law Review* 837 at 838-41. However, it is more certain that a new public law scholarship asks the lawyers to focus more broadly on institutional design, how policy should be translated into law, how to enforce it and how to manage the risk. See Edward L. Rubin, "The Concept of Law and the New Public Law", see Edward L. Rubin and et al, *Symposium Proceedings on the New Public Law* in (1991) 89 *Michigan Law Review*.

³⁴⁰ See William N. Eskridge and Gary Peller, "The New Public Law Movement: Moderation as a Post-modern Cultural Form" (1991) 89 *Michigan Law Review* 707. See also Cass R. Sunstein, *After the Rights Revolution: Reconceiving the Regulatory State* (London: Harvard University Press, 1990) for an address on traditional regulations. See also Peter L. Strauss, "Review Essay: Sunstein, Statutes, and the Common Law – Reconciling Markets, the Communal Impulse, and the Mammoth State" (1991) 89 *Michigan Law Review* 907 for a review on Professor Sunstein's book.

³⁴² See Justice A. P. Randerson, "Environmental Law and Justice – A Perspective on Three Decades of Practice and Some Possibilities for the Future" (1999) 3 *New Zealand Journal of Environmental Law* 1 at 10-12. ³⁴³ [1994] NZRMA 70 at 86, quoted in *North Shore City Council v. Auckland Regional Council* [1997] NZRMA 59 at

³⁴³ [1994] NZRMA 70 at 86, quoted in *North Shore City Council v. Auckland Regional Council* [1997] NZRMA 59 at 93.

regulations and policies, to deal with complex and interrelated pollution problems without being limited by concrete rules of conducts. It should also be noted that the central government does not retain any power to direct or amend the contents of these measures.

In this permissive jurisprudence established under the RMA, the separation of powers doctrine that the role of the legislature to enact new laws, the role of the executive to administer the laws as well as determine policy within the framework of those laws, and the role of the judiciary to interpret and apply the laws, is only loosely followed³⁴⁴. The indeterminacy of law left by the legislature engages the local administrative authorities and courts to make law, for instance, through cases by cases allocation of resource consents.

Effects-based rather than activities-based approach to pollution control 2.

A major principle underlying the RMA is the change in focus from managing specific human activities to reducing the effects their activities on the environment³⁴⁵. As discussed above, the RMA shifts from the formerly prescriptive pollution control system, which addressed particular activities directly 346, toward a permissive approach. In doing so, the RMA focuses not on controlling activities per se but on avoiding, mitigating and remedying the adverse effects of the activities on the environment. As such, theoretically³⁴⁷, any activity in any place is allowed if the adverse effects can be adequately avoided, remedied, or mitigated, and are otherwise consistent with the Act's overriding goal of promoting sustainable management of natural and physical resources.

The RMA emphasizes effects-based management in several ways³⁴⁸. Firstly, the concept of sustainable management incorporates the notion of avoiding, remedying, or mitigating any adverse effects of activities on the environment³⁴⁹. Further, the RMA imposes a specific duty on all persons³⁵⁰ to avoid, remedy or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of that person³⁵¹. Finally, the RMA adopts an impact assessment scheme in which proponent of individual project requiring resource consent, whether public or private, must submit to the consent authority an assessment of environmental effects³⁵².

³⁴⁴ See Somerville, supra note 345, at 148.

³⁴⁵ Although the RMA does not expressly use the term "effect s-based management", the Environmental Court of New Zealand and New Zealand practitioners and scholars have often described the general approach of the RMA as "effectsbased". See, for example, Bret C. Birdsong, "Adjudicating Sustainability: New Zealand's Environmental Court" (2002) 29 Ecology Law Quarterly 1 at 14.

³⁴⁶ Notably, the *Town and Country Planning Act* 1977. Activities were listed by names categorically into permitted as of right, prohibited, prohibited unless authority grants consent.

³⁴⁷ It is said to be "theoretically" as certain activities may be classified as "prohibited activities" under regulations, regional plans and district plans. If an activity is described as "prohibited activities", no application for resource consent may be made for that activity and a resource consent must not be granted for it. See section 77B(7) of the RMA.

³⁴⁸ The definition of "effect" is broad and expansive. It is defined by section 3 of the RMA (meaning of 'effect) as includes, any positive or adverse effect; any temporary or permanent effect; any past, present, or future effect; any cumulative effect which arises over time or in combination with other effects regardless of the scale, intensity, duration, or frequency of the effect, and also includes any potential effect of high probability; and any potential effect of low probability which has a high potential impact. 349 Section 5(2)(c) of the RMA.

³⁵⁰ "Person" includes individual, the government, a corporation sole, and also a body of persons, whether corporate or unincorporated. See section 2 of the RMA. ³⁵¹ Section 17(1) of the RMA.

 $^{^{352}}$ Section 88(2)(b) of the RMA.

3. Decentralized rather than centralized approach to pollution control

There is a deliberate stepping back by central government in its involvement with the implementation and administration of the RMA³⁵³. While the central government (the Minster of Conservation) still assumes substantial control over the coastal environment through the preparation of *New Zealand Coastal Policy Statement* and the approval of regional plans, in other areas, the principal powers retained by central government are merely the making of national policy statement (stating broad principles and goals) and the making or regulations prescribing national environmental standard (stating emission standards). Despite of the ability of central government to set out principles and standards, no national policy statement and national environmental standard has been adopted.

The implementation and administration of the RMA has largely been decentralized to local authorities, based on the principle that problem should be solved at the level to where is the closest to the problem. This is carried out by two processes discussed above. The first one is the hierarchical structure of policy statements and plans. Strategic and operational policy-making and rule-making powers are delegated or devolved to regional councils and district/city councils, through the making of *Regional Policy Statements*, *Regional Plans* and *District Plans*. Objectives and measures to deal with specific pollution issues, rules that prohibit or allow polluting activities or regulations setting out permitted level of emission are to be found in these documents. The second is the standardized procedure for resource consent applications. The RMA assigns the administrative powers to decide on different resource consent applications to local authorities (other than that for an activity one the coast or in the conservation site).

4. Pluralist rather than formalist approach to pollution control

The RMA can also be described as a "pluralist" statute³⁵⁴. On the contrary to formalists, pluralists postulate that participation should be carried out in all government decision-making processes and by a plurality of interest groups³⁵⁵. They argue that participation can improve the quality of decision-making, enhance flow of information, balance against formalist tendencies in government and increase accountability³⁵⁶. In this sense, the RMA facilitates participation in several ways. Any person can make a formal submission on proposed policy statement or plan by a local authority; on a publicly notified application for resource consent; on a proposed national policy statement; and on a proposed national environmental standard.

5. Summary

The RMA can be seen as part of the new legislative trend to state broad principles rather to prescribe rules of conduct. The powers to state detailed rules have been decentralized to local authorities. Public participation is encouraged that makes the Act a pluralist statute. The effects-based approach to pollution control also differs from the traditional activities-based approach.

³⁵³ See Somerville, supra note 345, at 147.

 ³⁵⁴ For a discussion of a pluralist approach to environmental law and administration, see David Robinson, "Public Participation in Environmental Decision-Making" (1993) 10 *Environmental and Planning Law Journal* 320.
 ³⁵⁵ *Ibid*, at 321.

³⁵⁶ *Ibid*, at 326-328 and 331-333. Centralists or formalists argues that public participation is inefficient, is inappropriate to adjudicative proceedings, is flawed because it is dependent on an interest-based notion of justice, is just a assumption on a developmental ethic which is false or immeasurable, and will lead to procedural formality controlled by self-interested lawyers. See ibid., 321-326.

D. Dimensions of Integration under the Resource Management Act

Having summarized the relevant sections on pollution control and identified the distinctive features of the RMA, it is now appropriate to examine the dimensions of integration.

1. Substantive integration

In terms of substantive integration by harmonization of laws and procedures ³⁵⁷, the RMA has been largely successful. Harmonization of laws in New Zealand were carried out in its strong sense, that all separate sectoral environmental laws, with few exceptions³⁵⁸, were brought together into one legislative document, forming a generalized environmental protection act to provide for general rules with respect to the licensing, standard setting procedures and enforcement. The RMA repealed 12 primary statutes ³⁵⁹ along with amendment acts to these statutes and some other amendment acts³⁶⁰. It amended 53 other statutes³⁶¹, and revoked 19 regulations and orders³⁶². The major achievement was the repeal of the *Water and Soil Conservation Act* 1967, the *Clean Air Act* 1972, and the *Town and Country Planning Act* 1977. The RMA integrated the management of land, air and water, which was managed separately before, into one coherent statute governed by common purpose, principles³⁶³ and definitions³⁶⁴. The Act also integrated procedures for policy-making and standard setting³⁶⁵, planning and consent giving³⁶⁶ and enforcement ³⁶⁷ in order to provide consistency.

The RMA recognizes the interconnectedness of the environment. Extensive cross-media integration is embedded in the broad definition of "natural and physical resources" and "environment". The "natural and physical resources" is defined as "[including] land, water, soil, minerals³⁶⁸, and energy, all forms of plants and animals (whether native to New Zealand or

³⁵⁷ See notes 53-60 above and respective texts. Harmonization of laws and procedures

³⁵⁸ Minerals are partly excluded from section 5. Fish stocks are governed by the *Fisheries Act* 1996. Hazardous substances are controlled under the *Hazardous Substances and New Organisms Act* 1996.

³⁵⁹ They are: the *Kumara Sludge Channel Act* 1889; the *Waitohi River Bed Act* 1989; the *Sand Drift Act* 1908; the *Woodville Borough Drainage Empowering Act* 1910; the *Waihou and Ohinemuri Rivers Improvement Act* 1910; the *Hawke's Bay rivers Act* 1919; the *Geothermal Energy Amendment Act* 1957; the *Iron and Steel Industry Act* 1959; the *Water and Soil Conservation Act* 1967; the *Clean Air Act* 1972; the *Town and Country Planning Act* 1977; the *Clutha Development (Clyde Dam) Empowering Act* 1982; and the *Noise Control Act* 1982. See Sixth Schedule of the RMA (enactment repealed).

³⁶⁰ They are: the *Reserves and Other Lands Disposal and Public Bodies Empowering Act* 1915; the *Statutes Amendment Act* 1945; the *Atomic Energy Amendment Act* 1957; the *Geothermal Energy Amendment Act* 1957; the *Marine Farming Amendment Act* 1975; and the *Harbours Amendment Act* 1981. See *ibid*.

³⁶¹ See Eighth Schedule of the RMA.

 $[\]frac{362}{272}$ See Seventh Schedule of the RMA.

³⁶³ Part 2 of the RMA (purpose and principles).

³⁶⁴ Section 2 of the RMA (interpretation).

³⁶⁵ Part 5 of the RMA (standards, policy statements and plans).

³⁶⁶ Part 6 of the RMA (resource consents).

³⁶⁷ Part 12 of the RMA (declarations, enforcement and ancillary powers).

³⁶⁸ It should be noted that minerals are partly excluded from the concept of sustainable management under section 5(2)(a). The management of mineral resources is governed by the *Crown Minerals Act* 1991. Nevertheless, certain degree of integration was achieved in that area as well. Effects of mining activities, e.g. mineral extraction, are governed by the RMA and resource consent for associated discharges of contaminants or construction is required. The RMA also give the central government and local authorities an additional role for mineral development through national, regional, and district policy statements and plans.

introduced), and all structures"³⁶⁹. The "environment" is defined as "[including] ecosystems, all natural and physical resources and amenity values"³⁷⁰. As indicated by the word "include", these lists are not exclusive. However, the *Hazardous Substances and New Organisms Act* 1996 limits the scope of pollution control under the RMA by making an artificially distinction between hazardous substances and non-hazardous substances. Nevertheless, a certain level of integration is still achieved in this area. While the use, import and control of hazardous substances is not regulated directly under the RMA³⁷¹, any adverse effect resulting from the storage, use, disposal, or transportation of hazardous substances was made subject to the RMA.

Turn to the procedures for applications of environment permits. Although a number of environmental permits still exist, a standardized procedure for all resource consents applications is provided by the RMA. Furthermore, the regional councils are solely responsible to deal with discharges of contaminants to the environment, with an exception to coastal marine area, through the issuance of regional plans and discharge permits. This has achieved a high degree of substantive integration by harmonization of procedure. The formerly several permits and procedures have been replaced.

In sum, while the RMA is not consistently applied across all natural and physical resources, it is fair to say that the substantive integration of the pollution control regime in New Zealand is still highly comprehensive.

2. Organizational integration

As defined in section one ³⁷², organizational integration is divided into horizontal organizational integration (among agencies of same levels of government) and vertical organizational integration (among agencies of different levels of government), where in its broadest sense can encompass public participation.

(a) Vertical organizational integration

The RMA deals with vertical organizational integration through a strong and decentralized structure with clear distribution of functions. While decentralization and a distribution of functions can be seen as disintegrative in some way, a clear understanding of the responsibilities is an important element in assuring integration and coordination³⁷³. The hierarchical system of the RMA is a strong measure aimed at achieving vertical organizational integration. It clearly define s the roles in pollution control at various levels of the government. The central government is given the power to set pollution policies and environmental standards. Local authorities, on the other hand, are given the administrative and regional/district pollution policy-making and rule-making responsibilities. By doing so, granting of resource consents, enforcement, ongoing management and so on are integrated within this administrative framework which, in turn, operates within the parameters of the higher level common purpose to promote sustainable management.

³⁶⁹ Section 2 of the RMA (interpretation).

³⁷⁰ Ibid

³⁷¹ See part 5 and part 6 of the *Hazardous Substances and New Organisms Act* 1996.

³⁷² See notes 61-71 above and respective texts.

³⁷³ See Helle Anker, "Integrated Resource Management – Lessons for Europe?" [2002] *European Environmental Law Review* 199 at 205.

The RMA also deals with vertical integration by providing several measures to remove conflicts between different levels of government. Firstly, this is normatively achieved by the RMA through a clear indication that the hierarchical framework of policy statements and plans must not be inconsistent³⁷⁴. Section 55 of the Act obligates the local authorities to take actions to remove inconsistencies. They must amend their Regional Policy Statements and Regional/District Plans to give effect to any provision in the National Policy Statement and New Zealand Coastal Policy Statement³⁷⁵. However, the wording of the RMA is less clear on the relationships between regional and territorial instruments. An equivalent to section 55 is missing on this area. Nonetheless, duties for district/city councils to remove inconsistencies are still legally implied, as *District Plans* must give effect to the concept of "integrated management" and must not be inconsistent with any *Regional Policy Statements or Regional Plans*³⁷⁶.

Secondly, the RMA provides practical means for resolving inconsistencies of policy statements and plans if actions by local authorities to inconsistencies are not taken. The Minister for the Environment may apply to the Environmental Court, if there is a dispute over whether a regional policy statement or regional/district plan gives effect to national policy statements, for an Court Order requiring the local authority to initiate a change to its policy statement or plan³⁷⁷. A regional council may also apply for the same order if a district plan is inconsistent. Or, the Minister for the Environment can simply use his residual powers when any local authority is not exercising or performing any of its functions, powers, or duties under the Act³⁷⁸, provided that certain conditions are satisfied³⁷⁹. In such a case, the Minister for the Environment may appoint, on such terms and conditions as the Minister thinks fit, one or more persons (including any officer of the public service) to exercise or perform all or any of those functions, powers, or duties in place of the local authority³⁸⁰.

Finally, in order to prevent conflicts, the RMA requires communication among different levels of government during the process of policy and plan preparation. Local authorities shall consult the Minister for the Environment; other Ministers of the Crown who may be affected by the policy statement or plan, and local authorities of higher level who may be so affected³⁸¹. Regional councils who prepare a regional coastal plan shall additionally consult the Minister of Conservation, the Minister of Fisheries and the Minister of Transport³⁸². However, the RMA does not specify how the consultation should be carried out. Format, intensity and effect of consultation are not legally determined.

As shown, law is relatively clear on the vertical integration in terms of distribution of responsibilities and framework to remove inconsistencies. A strong administrative structure ensuring a hierarchical and consistent pollution control system was set up. However, there are still areas of improvements. The contribution of the central government has been limited. To date, no National Environmental Standard and National Policy Statement has been prepared, which are important to reflect national objectives that can further integrate the hierarchy of policy statements and plans³⁸³. It has also been argued that lack of these documents has negative effects on the

³⁷⁴ See sections 55(1), 57(2), 62(2), 67(2) and 75(2) of the RMA. ³⁷⁵ Sections 55(1) and 57(2) of the RMA.

 $^{^{376}}$ Section 75(2) of the RMA.

³⁷⁷ See sections 82 of the RMA (disputes).

³⁷⁸ See section 25 of the RMA (residual powers of the Minister for the Environment).

³⁷⁹ Section 25(2) of the RMA.

³⁸⁰ Section 25(1) of the RMA.

³⁸¹ See sections 60, 65 and 73 in conjunction with the First Schedule, clause 3, of the RMA.

 $^{^{382}}$ See section 64 in conjunction with the First Schedule, clause 3(3), of the RMA.

³⁸³ Anker, supra note 377, at 206.

implementation of the RMA³⁸⁴. More guidance, for instance, on the provisions concerning conflict resolution, needs to be given by national policy statements.

(b) Participative integration

The goal of broad public participation in environmental decision-making is a cornerstone element of the RMA. The Act embraces the notion that public participation is an essential element of sustainability. Participation is opened at all levels, territorial, regional and national, of decisionmaking under the RMA. The RMA facilitates participative integration in several ways:

At local government level, any person can make a submission on what is, is not or should be in a proposed policy statement or plan by regional or district/city council³⁸⁵. The council has to consider all submissions and publicly notify where a summary of submissions and decisions on them can be inspected³⁸⁶. Any person may make a further submission to comment on other people's submissions. The council may also hold a public hearing if requested³⁸⁷. Furthermore, the general public may not only participate in the preparation process, but any person may also submit a request to the council to initiate the preparation of policy statements and plans (other than a regional coastal plan) or call for a change to policy statements and plans (including a regional coastal plan)³⁸⁸. The council must consider the request and shall notify the person who made the request of its decision and the reasons for that decision³⁸⁹. Moreover, any person may also make a submission on a publicly notified application for resource consent³⁹⁰. The council has to consider all the submissions that it receives, together with the application, and make a decision whether to not to grant the resource consent³⁹¹. Lastly, if any person, who made the submission or request, is unsatisfied with the decision the council made on policy statement, plan or resource consent application, he/she can appeal to the Environmental Court to overturn the council's decision³⁹². Even if the person has failed, the person may participate in the Environmental Court action initiated by another person if he or she has "an interest in the proceedings greater than the public generally" ³⁹³.

³⁸⁴ Ibid.

³⁸⁵ See section 60, 64, 65 and 73 in conjunction with the First Schedule, clause 5-8, of the RMA. See also, for general reference, New Zealand Ministry for the Environment, Making Submissions on Proposed District and Regional Plans (Wellington, New Zealand Ministry for the Environment, 1998), available at http://www.mfe.govt.nz/publications/rma/ (last visited on 30 March 2004).

³⁸⁶ First Schedule, clause 7, of the RMA.

³⁸⁷ First Schedule, clauses 8B and 8C, of the RMA.

³⁸⁸ See section 60, 64, 65 and 73 in conjunction with the First Schedule, clause 21-29, of the RMA.

³⁸⁹ First Schedule, clauses 25, of the RMA.

³⁹⁰ See sections 93-98 of the RMA. See also, for general reference, New Zealand Ministry for the Environment, Making Submissions on Notified Resource Consents (Wellington, New Zealand Ministry for the Environment, 1998), available at http://www.mfe.govt.nz/publications/rma/ (last visited on 30 March 2004). It should be noted that "non-notified" applications are not subject to public submissions and are decided by the consent authority without formal public participation. Despite of the statutory preference for notification of resource consent applications, however, the New Zealand Ministry for the Environment has estimated that, in practice, in year 2001/2002, only 6 percent of applications are on notified basis. See New Zealand Ministry for the Environment, Resource Management Act: Two yearly Survey of Local Authorities 2001/2002 (Wellington: New Zealand Ministry for the Environment, 2003), available at http://www.mfe.govt.nz/publications/rma/annual-survey/ (last visited on 30 March 2004).

¹ Section 104 of the RMA.

³⁹² See section 120 and First Schedule, claus es 14 and 27, of the RMA. For a discussion on the role of the Environmental Court under the RMA, see Birdsong, supra note 349, at 26-38. ³⁹³ See section 274 of the RMA (representation at proceedings).

At central government level, any person is also allowed to make a written or oral submission and further submissions on a proposed national policy statement³⁹⁴ or to comment on a national environmental standard³⁹⁵. A board of inquiry will then prepare a written report of these submissions and comments to the central government³⁹⁶. Although, this does not necessarily result in a change of proposed statement or standard, the Minister must consider the report when making recommendations on the issuance of statement or standard³⁹⁷.

In addition to providing participation to all persons at government proceeding, public are given the right to apply to the Environmental Court at any time for an enforcement order requiring any person to cease or prohibiting him from commencing any activity that contravene the RMA³⁹⁸ or for a declaration³⁹⁹. This includes any unlawful pollutant discharges to the environment. The order may require the any adverse effects resulted to be remedied or any damages caused to be compensated. Furthermore, any person may request the Court to initiate proceedings regarding an alleged criminal offence under the RMA⁴⁰⁰.

To summarize, the RMA embrace the right to participation at all levels, including both policymaking and planning, and operational decision-making and enforcement, by all individuals and representative interest groups. Such approach drives greater and broader consultation, participation, consensus building and conflict resolution⁴⁰¹. A high degree of participative integration is achieved under the RMA.

(c) Horizontal organizational integration

Horizontal integration can occur at the central government level as well as on regional or district government level. However, the RMA is only to a limited extent explicit about horizontal integration⁴⁰². Environmental agency at central government is still separate, with the Ministry for the Environment and the Department of Conservation bearing different responsibilities. And other central agencies of other sectors are not referred to in the RMA.

Horizontal integration at local government level under the RMA is also weak, despite of the provisions saying that local authorities must have regard to the extent to which the policy statements and plans need to be consistent of that of neighbouring regions and districts⁴⁰³, local authorities shall consult other local authorities of same level who may be affected when preparing policy statements and plans⁴⁰⁴ and a combined plan may be prepared⁴⁰⁵. Insofar, the term "have regard to" means simply "to consider". It is not legally necessary to remove inconsistency with those considered documents. Unlike the case between different levels of government, duties to remove inconsistencies and means to resolve inconsistency by Environmental Court are not

³⁹⁴ See sections 46-52 and 57(1) of the RMA.

³⁹⁵ Section 44 of the RMA.

³⁹⁶ See sections 44, 47-51 of the RMA.

³⁹⁷ See sections 44 and 52 of the RMA.

³⁹⁸ See section 314 of the RMA (scope of enforcement order). See also sections 315-321.

³⁹⁹ See section 311 of the RMA (application for declaration).

 $^{^{400}}$ Section 338(4) of the RMA.

⁴⁰¹ See David. P. Grinlinton, "Integrated Resource Management – A Model for the Future" (1992) 9 Environmental and Planning Law Journal 4 at 16.

 $^{^{402}}$ See Anker, supra note 377, at 204. 403 See sections 61, 66 and 74 of the RMA.

⁴⁰⁴ See sections 60, 64, 65 and 73 in conjunction with the First Schedule, of the RMA.

⁴⁰⁵ See section 80 of the RMA (local authorities may combine to prepare, etc, plans).

provided by the Act. The RMA is also silent on how the consultation should be carried out and the effects of it. More, the combined plan is not legally necessary.

3. External integration

As defined, external integration means the integration of environmental considerations into social and economic decision-making⁴⁰⁶. Section 5 of the RMA determines the extent of external integration, using the term "sustainable management", which is defined as:

"[Managing] the use, development, and protection of natural and physical resources in a way, or at a rate, which *enables people and communities to provide for their social, economic, and cultural well being* and for their health and safety while - (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; (b) safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and (c) avoiding, remedying, or mitigating any adverse effects of activities on the environment [emphasis added].

The wording of section 5 reflects that social, economic and cultural well being and environmental protection and conservation are the goals of the RMA. Social, economic and cultural considerations are relevant for environmental decision-making. Similarly, environmental considerations are also relevant for social, economic and cultural decision-making⁴⁰⁷. As such, section 5 requires the external integration of environmental considerations into social, economic and cultural decision-making does not provide much further guidance or even a method for external integration⁴⁰⁸.

IV. Lessons for Hong Kong

Hong Kong is a small city (only 1098 sq km), highly urbanized and compact (Hong Kong has a population of 7 million). It does not have extensive forests or natural resources. As such, the approach taken in New Zealand may be too complicated for Hong Kong. Furthermore, the general principle also tells us that we should not copy legislation of other countries blindly. In fact, the legal framework need not have a specific form, e.g. a single comprehensive piece of legislation as the New Zealand's Resource Management Act 1991. Adaptation to different circumstances is necessarily required. Legislation is enacted to tackle particular problems by providing appropriate solutions. Local social, economic and geographical contexts must be taken into account.

Section two of this paper illustrates that Hong Kong shall take efforts to integrate its pollution control system. The most serious problems of Hong Kong's pollution control system are its fragmented and overlapping legal and institutional framework and lack of public participation. Hong Kong has neither an integrated pollution ordinance, nor a general act for procedures. More than that, its three specialized anti-pollution statutes, namely, the Air Pollution Control Ordinance, the Water Pollution Control Ordinance and the Waste Disposal Ordinance, are overlapping with eighteen other statutes. Hong Kong's institutional framework has the problems of inefficiency, role conflicts and confused lines of responsibility. As a whole, the legal and institutional environmental

⁴⁰⁷ See Klein, "Integrated Resource Management in New Zealand –A Juridical Analysis of Policy, Plan and Rule Making under the RMA" supra note 345, at 20. The author contends that the wording of section 5 of the RMA reflects the lawmaker's intention to integrate social, economic, cultural and environmental considerations.

⁴⁰⁶ See notes 72-77 above and respective texts.

⁴⁰⁸ *Ibid.*, at 22,

framework is not designed to encourage participation in environmental protection by ordinary members of the community. Finally, while external integration, integration environmental considerations into non-environmental sectors, is recognized in environmental strategies and policy statements, it is not realized through any statutory instrument.

And a study of the RMA can provide lessons for Hong Kong of how New Zealand solves similar problems. The way that New Zealand brought together pieces of legislation into a holistic comprehensive act, the RMA, should be appreciated. A study of the RMA can also provide lessons for Hong Kong of what an integrated approach to pollution control can entail in practice more specifically in an environmental law context. Substantive integration is achieved through a broad definition of "sustainable development" and the resource consent process. Organizational integration is achieved through the clearly defined three-tier hierarchical structure of government under the RMA. This hierarchical planning system is also the "backbone" of the RMA. Participative integration is achieved through the statutory rights provided under the RMA.

Lessons from the merits of the New Zealand Resource Management Act

Meanwhile the RMA offers lessons on how to realized a comprehensive and integrated approach to pollution control, the more fundamental merits that underpin the RMA, decentralization, public participation, accountability, and integration, are central themes in a Hong Kong context as well.

1. Decentralization of decision-making

As discussed above, the RMA adopted a decentralized approach to pollution control. The implementation and administration of the RMA has largely been decentralized to local authorities. Strategic and operational policy-making and rule-making powers are delegated or devolved to regional councils and district/city councils, through the making of *Regional Policy Statements*, *Regional Plans* and *District Plans*. Administrative powers to decide on discharge consents have been devolved to regional councils and other resource consent applications have also been assigned to different levels of local authorities.

There are advantages for devolution and decentralization of the authority for administration, making policies and rules concerning pollution issues to regional and district/city councils. Devolution and decentralization provide a platform for proactive and meaningful public participation in policy formulation and implementation as well as administration. Decision-making is thereby brought closer to those affected by decisions. Decision-makers have to live with the consequences of their decision and held accountable for them. The greater transparency and accountability resulting from decentralized process have proved to improve compliance with resource consent. All regional councils have employed full-time inspectors to carry out compliance monitoring and the larger pollutant dischargers in New Zealand have also carried out their own monitoring⁴⁰⁹.

The rationale for delegated authority to local tiers of government is also justified on the ground of economic premise that pollution control should be carried out at the point where the required information is available and where the incentives to get the right results are greatest⁴¹⁰. Public

⁴⁰⁹ See OECD, *Environmental Performance Reviews: New Zealand* (Paris: OECD, 1996), at 71.

⁴¹⁰ See P. A. Memon, "Designing Institutional Arrangements for Environmental Policy: Implications for ASEAN Countries of Recent New Zealand Reforms" (1995) 3 *Asian Journal of Environmental Management* 147 at154.

concerns as well as information vary according to locality. Territorial government, district and city councils, is delegated more localized land use and hazardous substances issues. Regional government, regional councils, is devolved pollution issues of regional nature, such as water and air pollution. In the case of pollution, the receiving media of air, water and land have interrelated effects which extent beyond the jurisdiction of a single territorial authority.

As Hong Kong is geographically very small, it is not necessary for Hong Kong to establish a three-tier governmental structure. But the wisdom of the RMA tells us that more powers may be delegated to district councils in Hong Kong. This will not only improve the quality of environmental decision-making but also raise the environmental awareness of the public.

2. Realization of public input

As discussed above, we cannot simply expect layman individual citizens to meaningfully participate in the process. Gillette and Krier thus have remarked that⁴¹¹:

"The sceptics are probably right that, on the technical side of the matter, little can be expected of the ordinary public ... there seems to be little reason to suppose that participatory processes provide good means for filtering out cognitive errors, and some reason to suppose they might aggravate them. Hence, there is the danger that fuller participation will either generate undesirable results or, if lay input is routinely ignored, disappoint public expectations."

It does not mean that public participation should be avoided. It is well recognized that public input can be used to help to guide the government decision-makers. The argument of Gillette and Krier only suggests that lay input carries a potential risk of errors. And the key to resolve the potential risk of errors is the way in which public participation is to be realized.

The way in which the RMA realized public participation can provide useful lessons for Hong Kong. Public participation under the RMA is accomplished by the devolution of decision-making powers to elected regional and district/city councils. Decision-making is thereby brought closer to the public. And made by the council members who are more directly accountable to the public in the regions or districts through election. Procedures that public may participated are clearly outlined in the RMA, including participation at policy-making, planning, operational decisionmaking and enforcement level. This provides guidance and certainty to the public. Information are made available to the public, including any proposed national policy statement, national environmental standard, notified resource consent application, proposed regional policy statement, proposed regional and district plans and submissions on all these documents by other citizens ⁴¹². This enhances the flow of information which is a prerequisite to effective public participation.

3. Integration of environmental impact assessment and pollution control

Environmental impact assessment is well integrated with pollution control under the RMA through the requirement that an application for resource consent must be accompanied by an assessment of the environmental effects. The RMA have also significantly widened the

⁴¹¹ Clavton P. Gillette and James E. Krier, "Risk, Court, and Agencies" (1990) 138 University of Pennsylvania Law *Review* 1027 at 1105. ⁴¹² *Ibid.*

circumstances under which an environmental impact assessment is required⁴¹³. Environment impact assessment is now mandatory for all activities requiring resource consents.

In Hong Kong, the application of environmental impact assessment is limited to a list of prescribed activities, which is themed at major development projects. The environmental impact assessment is also separated from discharge permits application process. Similar process as the resource consent granting process in New Zealand, which integrates environmental impact assessment and permit granting process, shall be considered in Hong Kong.

Lessons from the deficiencies of the Resource Management Act

The deficiencies of the legislative approach in New Zealand can offer lesson to Hong Kong on what should be avoid as well. These deficiencies that will be examined below are: uncertainty, weakness of effects-based approach, problems of participation and problems of decentralization.

1. *Uncertainty*

As discussed above, the RMA is not prescriptive. The Act uses broad language. It begins with a broad statement of purpose. It goes further explicitly to require local authorities to form rules for pollution control, where the only guidance is that the rules must promote the purpose of the Act. Although, the "deliberate openness" of the RMA provides a large extent of flexibility and generality openness, it, at the same time, has brought the several problems of uncertainty.

(a) Purpose section

The purpose section, section 5 of the RMA, is difficult to characterize. McLean contends that⁴¹⁴:

"This section attempts to do too many things. It sets out sustainable management as the objective of the Act but includes a definition of sustainable management which puts in doubt its status as that ultimate objective."

It is fairly true that while the RMA correctly identifies "sustainable management" as a guide for evaluating development against the environment. It falls short of adequately defining it⁴¹⁵. This difficulty to characterize section 5 is clearly illustrated in the great number of court decisions and authors addressing the question of how it should be interpreted and authors criticizing the openness of section 5⁴¹⁶. Although the courts seem to have more recently adopted an "overall broad judgment" approach to interpretation, which will weigh the various elements of sustainable management of a project to see whether it can achieve the purpose of the Act⁴¹⁷, it does not tell how much weight should be given to each element of sustainable management and it is not clear which element should take precedence over the other. The tension between the "ecological element" and

⁴¹³ The Original procedure in New Zealand was called the Environmental Enhancement and Protection Procedures,

which comprised a system for environmental impact assessment for public or publicly funded projects and if there was a significant effect on the human physical or biological environment. See *ibid.*, at 83 and 85. ⁴¹⁴ McLean, "New Zealand's Resource Management Act 1991: Process with purpose?", supra note 280, at 545.

⁴¹⁵ See Klaus Bosselmann and Prue Taylor, "The New Zealand and Conservation" (1995) 2 Pacific Conservation *Biology* 113 at 120. ⁴¹⁶ See the articles cited in notes 280 above.

⁴¹⁷ For discussion on the overall broad judgment approach, see notes 285-287 above and respective.

"management element" in the originally "balancing" and "environmental priority" approach still exists.

We may consider an example of a factory is polluting. It emits pollutant into water. There is a technology available to reduce the emissions of pollutant. However, the technology is so expensive that if it were required, the factory would be forced to close down or move to another area. Section 5(1) of the RMA says that the Act is to promote the sustainable management of water. Section 5(2) of the Act says that water should be managed in the way that enables people and communities to provide for their social, economic, and cultural well being while safeguarding its life-supporting capacity and its potential to meet the needs of future generations. At what point does the RMA require the environment to be put before social and economic activities? Whether and when does the RMA does not tell us, but offers too many choices without further guidance⁴¹⁸.

(b) Principle sections

The principle sections, sections 6, 7 and 8 of the RMA, enlarge the uncertainty of the concept of sustainable management. These sections assert three lists of abstract and relative terms and within these three lists, the items are not prioritised Of section 6 it was said⁴¹⁹.

"The purpose behind [this section] ... is ill-suited to the provision of a body of rules applicable to particular facts and able to be argued meaningfully ... The position is a fortiori with section 6 of the RMA."

The priority and weight to be given to the principles is a matter to be determined solely by the decision-makers. And the vagueness of the principles causes potential difficulty for decision-makers in making decisions and causes uncertainty to what decisions would be made. Returning to the example above of the polluting factory. How much weight should be given to the principle of maintenance and enhancement of the quality of water⁴²⁰? In the end, the RMA does not tell us. The question has been left to the local authorities and courts.

(c) Difficulties in implementation by local authorities

As discussed above, the "deliberate openness" nature of the purposes and principles of the RMA is intended to provide a large extent of flexibility and generality to the local authorities, enabling them to choose the most suitable measure regarding to specific local circumstances without being limited by concrete rules of conducts. However, this great extent of flexibility and generality has created difficulties to the local authorities at the same time.

In an early study on the RMA by Frieder, it found that the RMA is strong in planning but weak in implementation⁴²¹. The study has been identified that many local authorities do not understand the meaning or applicability of the RMA enough to derive the benefits of an integrated approach⁴²². Although this study was carried in 1997 and based on three regions only, it still demonstrates the

⁴¹⁸ See also McLean, supra note 280, at 547.

⁴¹⁹ See Williams, "The Resource Management Act 1991: Well Meant But Hardly Done", supra note 280, at 683.

 $^{^{420}}$ Section 7(f) of the RMA.

 ⁴²¹ Frieder, Approaching Sustainability: Integrated Environmental Management and New Zealand's Resource Management Act, supra note 274, at 50.
 ⁴²² See Ibid., at 48. It should be noted that this study was carried out in 1997, when most policy statements and plans

⁴²² See *Ibid*., at 48. It should be noted that this study was carried out in 1997, when most policy statements and plans were still under development, based on the analysis of three regions only and focused on the implementation rather than the legislative approach.

difficulty of the local authorities to understand the meanings of "sustainable management". In a later study, it has been found that there are widely differing approaches to define the scopes of their roles under the RMA⁴²³. Some regional councils, in their regional policy statements, limit their roles under the RMA to resolve cross-media effects and/or cross-boundary effects⁴²⁴. While some regional councils, in their regional policy statements, broadly defined the purpose of RMA as integration of decision-making with community participation or integration towards shared environmental outcomes⁴²⁵. It suggests that as the terms and the roles of the local authorities are not clearly defined in the RMA, a consistent use of terms and recognition of roles across the whole region does not exist⁴²⁶.

From these findings, it can be concluded that the languages used in the RMA has caused widely differing policy statements and plans. There is a potential risk under the Act that policy statements and plans between different regions or districts are so inconsistent to impede integration. In particular, duties to remove inconsistencies and means to resolve inconsistency by Environmental Court among authorities of same level are not provided by the Act⁴²⁷. The Minister's power to intervene in resource consent processes is restricted to matters of national significance⁴²⁸. In the end, it indicates an integrated approach to pollution control under the RMA is far from being clear.

Therefore, we can learn from New Zealand's experience that "deliberate openness" can be a strength as well as weakness⁴²⁹. As intended by the New Zealand lawmakers, the generality and indeterminacy of the RMA serve as a tool for the implementation of comprehensive policies and the management of complex and interrelated problems when circumstances arise. Harris correctly contends that it is only bad, if in particular circumstances, the required rule-making is more appropriate for the legislature than the courts⁴³⁰. Similarly, it is bad also if the required rule-making is more appropriate for the Legislature than the local authorities. As such, the "deliberate openness" is a bad thing regarding to the purposes and principles of the RMA, which has created uncertainty and inconsistency. On the contrary, the "deliberate openness" will become a merit regarding to the making of local rules, which has created flexibility to local authorities. It is, thus, extremely important for Hong Kong in establishing a legal framework for integrated approach to pollution control to meet the traditional legal value of certainty. It shall provide for the settings of guidance to local authorities, definitions of key terms and operational environmental objectives.

2. Weakness of effects-based approach

Stanhope has contended that the RMA is concerned only with the adverse effects pf environmental problems and fails to address the causes of them⁴³¹. The author further claims that the "emphasis on effects in the RMA prevents prescriptive planning of the causes of the

⁴²³ Klein, "Integrated Resource Management in New Zealand – A Juridical Analysis of Policy, Plan and Rule Making under the RMA", supra note 345, at 39-43.

⁴²⁴ Canterbury Regional Council, Hawke's Bay Regional Council and West Coast Regional Council.

⁴²⁵ Manawatu Wanganui Regional Council and Otago Regional Council.

⁴²⁶ See also Clare Barton, "Not Just An Add-on" [1993] *Planning Quarterly* 19 at 21.

⁴²⁷ See notes 406-409 above and respective texts.

⁴²⁸ See section 140 of the RMA (Minister's power to call in applications of national significance).

⁴²⁹ See Klein, supra note 345, at 17 and Harris, "The Law -making Power of the Judiciary", supra note 284, at 270.

⁴³⁰ See Harris, *ibid.* Harris's finding is based on the principle that, consistent with the democratic underpinning, law should preferably be made by democratically elected lawmakers. Legislature should only leave laws to be made by the courts where it is not appropriate that those laws be made by the legislature, and it is appropriate that those laws be made by the courts.

⁴³¹ See Rhoanna Stanhope, "A Vision for the Future? The Concept of Sustainable Development in the Netherlands and New Zealand" (2000) 4 *New Zealand Journal of Environmental Law* 147 at 172.

environmental damage. The RMA effects-based approach also has an inherent weakness when it comes to determining cumulative effects' ⁴³².

It is not accurate to say that the RMA concentrates on the adverse environmental effects when for the most part it ignores their causes. At the resource consent stage the applicant is required to submit information of the nature of the discharge and any possible alternative methods for discharge, including discharge into any other receiving environment⁴³³. Such information indeed is concerned with the causes.

It is also not accurate to say that the RMA does not take cumulative effects of contaminants discharges into accounts. "Contaminants" is defined by section 2 of the RMA to include any substance that in combination with the same, similar, or other substances changes the physical. chemical or biological condition of the water, land or air onto or into which it is discharged. Section 70 also prohibits regional councils from making rules allowing discharges into water which in combination with other contaminants having those effects listed under section $70(1)(c)(g)^{434}$. "Effects" is defined by section 3 of the RMA to include any cumulative effect which arise over time or in combination with the effects. As such, in making discharge permit applications, actual and potential cumulative effects on the environment of the discharge are required to be assessed⁴³⁵.

However, it is true that the effects-based approach has an inherent weakness, or at least, in a sense, inadequate, when it comes to determining cumulative effects⁴³⁶. Firstly, the cumulative effects of the contaminants are judged in relation to discrete activities rather than in relation to the overall combination of effects. Secondly, only the cumulative effects with pre-existing substances are required to be taken into account. Any latent cumulative effects with other discharges in future are not otherwise required. Lastly, there is no similar provision like section 70 that prohibits regional councils to create certain rules permitting discharges of contaminants into air or land.

In the end, while the effects-based approach under the RMA has its strength, it should be supplemented by other measures to the causes and cumulative effects of discharges, such as, a statutory limitation on the total emission limits in a region.

3. Problems of decentralization

Gillette and Krier argue that there is a potential risk that regional interests may prevail over that of the others. They remarked that⁴³⁷:

"[Decisions] made in any one locality are likely to consider parochial interests ... some communities will protect their own backyards and leave no place for risky but ... beneficial development. Other communities will find ways to realize the benefits of development while exporting its costs to neighbours (an example would be polluting factories using tall stacks). Still other will simply accept risks that their neighbours wish to avoid, but in the nature of things cannot ([an example would be] a decision by one locality to accept a toxic waste dump essentially negates the decision of a neighbouring community to reject the same project."

⁴³² *Ibid.*, at 176.
⁴³³ See Schedule 4, clause 1(f) in conjunction with section 88(2)(b), of the RMA. ⁴³⁴ They are: t he production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials; any conspicuous change in the colour or visual clarity; any emission of objectionable odour; the rendering of fresh water unsuitable for consumption by farm animals; and any significant adverse effects on aquatic life.

⁴³⁵ See also Smith, "The Role of Assessment of Environmental Effects under the Resource Management Act 1991", supra note 343, at 89-90.

See McLean, "New Zealand's Resource Management Act 1991: Process with purpose?", supra note 280, at 550. ⁴³⁷ Gillette and Krier, "Risk, Court, and Agencies", supra note 415, at 1106-1107.

In particular, there is no legal requirement that the interests of neighbouring regions and districts must be taken into account. The only requirement is that local authorities must have regard to the extent to which the policy statements and plans need to be consistent of that of neighbouring regions and districts. Insofar, the term "must have regard to" means simply "to consider".

Therefore, when conducting a study into the desirability of decentralized legislation in Hong Kong, the facts that regional biases may appear shall be taken into account. Corresponding mechanisms to avoid regional biases should also be set up.

Conclusion

Generally, the RMA offers valuable lessons for Hong Kong. The RMA in tune with the ideas of "decentralization" and "deliberate openness" provides for a great flexibility for local authorities to choose those pollution control measures which are most suitable in the specific local circumstances. The roles and responsibilities of different levels of government are clearly defined that ties the measures together. The associated consultation and public participation procedures provides for accountability. However, explicit guidance and clear definitions are not provided in many aspects of the RMA. The local authorities thus have a very difficult task of achieving consistent and integrated pollution control. Nevertheless, the blame for this deficiency cannot be laid completely with the RMA itself, which is still under development. It is argued that national policy statements and national environmental standards, which have not been adopted yet, can provide further guidance and directions from national government on the areas of uncertainty: for examples, on how to interpret the purposes of RMA, on how to determine the acceptable level of adverse effects on the environment, on how to resolve conflicts and on provisions defining purpose and principles⁴³⁸. This is not necessarily contrary to the idea of decentralization and permissiveness. Rather the setting of clear guideline is a necessary prerequisite to the functioning of an effects based and integrated approach to pollution control and will give valuable assistance to local authorities.

However, this is not to suggest that the cure for pollution problems in Hong Kong will be found in a comprehensive statute alone. On the contrary, clearly, it will not. Alternatives such as economic instruments, voluntary agreements or educational programmes should also be investigated.

⁴³⁸ See in this connection Randerson, "Environmental Law and Justice – A Perspective on Three Decades of Practice and Some Possibilities for the Future", supra note 346, at 12.