
The Village — Spores of Attainment, Spurs for the Environmental Renewal of the Urban Airshed

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I. THE VILLAGE, URBAN FORESTS AMIDST SWELLING SWELTERING HEAT ISLANDS

By and by a cluster of roofs, church towers, docks, and arsenals took form against the sea. A little later we could discern the hulks of the Spanish fleet scattered in the water, and several of our own fighting craft at anchor. This was Cavite. There, too around a great curve of eight or nine miles, lay Manila, a mass of towers, domes, and white-painted iron roofs peeping out

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of the green. Behind loomed the background of mountains, without which no Filipino landscape is ever complete.¹

So writes the school teacher, Mary Fee, of her first glimpse of Manila when she arrived sometime in mid-August, 1901 on the U.S. army transport ship USATS Bufford, about a week before the arrival of her colleagues on the USS Thomas² and two and a half years after the American invading army cleared Manila and its environs of all opposing forces.³ Even in the aftermath of a bloody battle, Mary Fee gazed upon a beautiful city with rooftops set against a thick canopy of trees. Today, more than a hundred years later, the same canvas of lush greenery is seen from a window of a plane gliding down for a landing into Metro Manila. As the plane dips into the metropolis, the passenger is treated to an artful patchwork of rooftops, some tiled, some of galvanized iron, all of different hues, “peeping out of the green,” as Mary Fee puts it.

On the ground one soon realizes that Manila⁴ owes much of its abundance of greenery to its villages. The word “village” here has a meaning

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1. MARY H. FEE, A WOMAN’S IMPRESSION OF THE PHILIPPINES 42 (1910). Mary Fee was sent by the U.S. government to the Philippines as a teacher and remained for eight years in the Philippines. She is listed as the principal and teacher of the Philippine School of Arts and Trade in Capiz in the list of teachers of the Philippine Bureau of Education circa 1901–1906.
See also Filipinos and Americans in the Philippine Bureau of Education, *available at* [http://rizal.lib.admu.edu.ph/ahc/guides/Bureau%20of%20Education%2\(1091-1906\).pdf](http://rizal.lib.admu.edu.ph/ahc/guides/Bureau%20of%20Education%2(1091-1906).pdf) (last accessed Feb. 3, 2009).
2. The USS Thomas carrying 542 American teachers was reported in a contemporary account as having entered Manila Bay on Aug. 23, 1901. The ship gave the name of “Thomasites” to all American teachers sent to the Philippines by the U.S. Government to “educate” the Filipinos.

JOHN BANCROFT DEVINS, AN OBSERVER IN THE PHILIPPINES 187 (1905).
3. The American army of occupation defeated the Philippine Army in the battle for Manila on February 1899.

BRIAN MCALLISTER LINN, THE PHILIPPINE WAR 1899–1902 41–64 (2000).
4. The term “Manila” is often interchangeably used with “Metro Manila” as a collective term used to refer to Manila and the cities and municipalities that surround it. Metro Manila or Metropolitan Manila is a public corporation created under Presidential Decree No. 824 and embraces the cities of Quezon;

that departs from what is normally understood as a tiny rural settlement smaller than a town. In the Philippines, a “village” is within the boundaries of a city and can hardly be described as rural. When speaking of a village, the Filipino mind conceives of a residential community whose common areas and restrictions on how homes are constructed within its boundaries are administered by a private association of homeowners. To the Filipino speaker, a village would, more often than not, refer to a gated community where the homeowners’ association controls access to the privately owned roads within the community. The term may sometimes be used to refer to residential communities controlled by a homeowners’ association where the public can freely traverse the public roads that crisscross the area; however, this would be more the exception to the norm.

Some writers and researchers attempt to trace the history of gated communities to castles, forts, or walled towns of the past. The residents of the modern gated community may find common cause with those who lived in the ancient or medieval walled communities in the desire for greater security and a search for a certain way of life; however, this writer sees no historical continuum between the two. Villages or gated communities such as those found in the Philippines are seen in many countries around the world. In most cases, they are a recent phenomenon of the last two decades or so. Much of the foreign essays on the subject critically view gated communities as a form of social fragmentation, almost to the point where this axiom has become a mantra for those engaged in this field of study.⁵

Manila; Caloocan; Makati; Pasig; Marikina; Mandaluyong; Pasay; Muntinlupa; Parañaque; Las Piñas; Valenzuela; Taguig; Malabon; Navotas; San Juan; and the municipality of Pateros. Each of the cities and the municipalities are separate local government units governed by its own mayor. The entire Metro Metropolitan Manila is administered by the Metropolitan Manila Development Authority.

See An Act Creating the Metropolitan Manila Development Authority, Defining Its Powers and Functions, Providing Funds Therefor and for Other Purposes, [MMDA Act], Republic Act No. 7924 (1995); see also Creating the Metropolitan Manila and the Metropolitan Manila Commission and for Other Purposes, Presidential Decree No. 824 (1975).

5. See Jill Grant & Lindsey Mittelsteadt, *Types of Gated Communities*, 31(6) ENVIRONMENT AND PLANNING B: PLANNING AND DESIGN 913–30 (2004), available at <http://www.envplan.com/epb/fulltext/b31/b3165.pdf> (last accessed Feb. 3, 2009); EDWARD J. BLAKELY & MARY GAIL SNYDER, *FORTRESS AMERICA - GATED COMMUNITIES IN THE UNITED STATES* 3-7 (1997); Cletus Moobela, *Gated Communities: Violating the Evolutionary Pattern of Social Networks in Urban Regeneration?*, Paper Presented to the Conference on “Gated Communities: Building Social Divisions or Safer Communities?” (Sep.

Such essays have not spared the gated villages of the Philippines from criticism. The villages of Metro Manila were pilloried as islands of social isolation resided by an upper income populace.⁶ This income divide is a consequence of the fact that gated communities in the Philippines are the creations of real estate developers who convert large tracks of land into individual home lots to be sold for profit. Thus, by the very nature of the business profit motivation involved in its development, the gated community in the Philippines is identifiable by the income levels of its residents rather than to any particular religious or racial segment of society as has been sometimes the experience in other countries. In this sense, it may be said that the village in the Philippines promotes a meritocracy, as these residential enclaves are open to all who have succeeded in their business or careers and is a beacon to those with ambition but who have yet to gain the wherewithal to purchase a home in a village.

The villages within Metro Manila, moreover, are mature communities that through urban evolution are now found inside the city. The villages are older than most gated communities outside of the country and are unique because of their expanse and their location in the heart of the city. The oldest in the country is reputedly Forbes Park in Makati. The development of the 168 hectare Forbes Park began in 1948, the first sale of a lot in Forbes Park was closed on 19 January 1949, and its homeowners' association was incorporated on 29 November 1950.⁷ Five other villages were developed within Makati in the next 12 years.⁸ Villages were also founded in other

18-19, 2003) at 4-6, *available at* <http://www.bristol.ac.uk/sps/cnrpapersword/gated/moobela.doc> (last accessed Feb. 3, 2009); Karina Landman, *Gated Communities And Urban Sustainability: Taking A Closer Look At The Future*, 2 (2000), *available at* http://www.gatedcomsa.co.za/docs/urban_sustain.pdf (last accessed Feb. 3, 2009); Sue Barnes, *Gated Communities: A Discussion of the Reasons and the Consequences of Housing Choices Towards Increasingly Secure or Fortified Spaces in Western Cities*, *available at* <http://socsci.flinders.edu.au/geog/geos/PDF%20Papers/Barnes.pdf> (last accessed Feb. 3, 2009).

6. See J. Connell, *Beyond Manila: walls, malls, and private spaces*, in 31 ENVIRONMENT AND PLANNING A 417-39 (1999), *available at* <http://envplan.com/epa/fulltext/a31/a310417.pdf> (last accessed Feb. 3, 2009).
7. FORBES PARK ASSOCIATION, WELCOME TO FORBES PARK – A HANDBOOK FOR FORBES PARK ASSOCIATION MEMBERS AND RESIDENTS 6-7 (Dennis O. Valdes ed., 2005).
8. *Id.* The other villages were San Lorenzo (1952), Bel-Air (1954), Urdaneta (1957), Magallanes (1962), and Dasmariñas (1962).

parts of the metropolis, more or less following the growth patterns of these areas. Quezon City was a popular destination from 1948 onwards since the city became a government center having been designated then as the capital city, while the growth of Mandaluyong, San Juan, Parañaque, Pasig and Marikina was thought to be largely brought about by migration from the city of Manila and the provinces primarily due to the existence of manufacturing industries.⁹ From 1970's onwards, there was a tremendous growth of residential subdivisions even beyond Metro Manila itself. By 1990's it was observed that in Quezon City alone, there were about "24 private residential subdivisions with some 6000 homes, almost all of which were single detached houses, with each subdivision covering an area of about 50 hectares."¹⁰ By the end of the 20th century it was estimated that there are "probably more than 500 distinct subdivisions, with as many as a million residents" within the metropolis and its immediate vicinity.¹¹

Residential areas grew from the 1938 figure of 14.2% of the land area within the current metropolis to 65% in 1994.¹² A substantial portion of these residential areas are villages, several of which consist of more than 100 hectares. Quezon City, the biggest of the 17 local government units (LGUs) of the metropolis, has 16,112.12 hectares and represents one fourth of the land area of Metro Manila.¹³ Quezon City, by at least one estimate, has 24 villages with a total land area of at least 1,200 hectares, which is 13.5% of the land area of the city.¹⁴ In Muntinlupa City, lies the sprawling 694 hectare gated community of Ayala Alabang, which by itself already accounts for 15%

9. Marifé Magno-Balesteros, *Land Use Planning in Metro Manila and the Urban Fringe: Implications on the Land and Real Estate Market* 5-6 (Philippine Institute for Development Studies, Discussion Paper Series No. 2000-20, 2000) available at <http://www3.pids.gov.ph/ris/dps/pidsdp0020.pdf> (last accessed Feb. 3, 2009).

10. Connell, *supra* note 6, at 423.

11. *Id.*

12. Magno-Balesteros, *supra* note 9, at 9.

13. Overview of Quezon City, available at http://quezoncity.gov.ph/index.php?option=com_content&task=view&id=75&Itemid=1 (last accessed Feb. 3, 2009).

14. See Connell, *supra* note 6, at 423.

of the city's land area of 4,670 hectares.¹⁵ BF Homes, at 765 hectares, is even larger, and encompasses the cities of Parañaque, Las Piñas and Muntinlupa.¹⁶ Makati City has a land area of 2,736 hectares,¹⁷ and its residential areas are the single largest land use comprising more than a third at 37.69% of its total land area.¹⁸ This is overwhelmingly dominated by the gated villages, and it would be fair to say that its six major villages alone occupy about 25% of Makati's land area.¹⁹

Many of the villages in Metro Manila preceded the commercial centers that adjoin them. The business centers adjoining these villages slowly came to shape as these villages provided the population and market for their wares, services and office spaces. The result is that the gated communities co-exist with the commercial centers on such matters as the flow of vehicular traffic, which has evolved into a pattern that smoothly moves around the outskirts of these villages. A land use study by the Makati City government in 2000 concluded that the villages in Makati not only relieve pressure on the

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15. Muntinlupa City - Physical Features, *available at* http://www.muntinlupacity.gov.ph/index.php?target=about¶ms=request__resord# (last accessed Feb. 3, 2009).
 16. BF Homes Properties, Trivia, *available at* <http://www.bfhomes.net/bftrivia.htm> (last accessed Feb. 3, 2009).
 17. Makati has 4.3% of the land area of Metro Manila. Urban Development Department, City Government of Makati, *Makati City 2000 Comprehensive Land Use Program, 2 Existing Conditions and Trends* 14, *available at* http://www.makati.gov.ph/portal/contents/about_makati/land_use/CLUP/Existing_Trend.pdf (pagination of citations of the *Makati City 2000 Comprehensive Land Use Program* in this Article refers to screen numbers of the software in the absence of actual page numbers on the pages of the material) (last accessed Feb. 20, 2009) [hereinafter *Makati City 2000*].
 18. *Id.* at 19.
 19. *See Makati City 2000, supra* note 17, at 24. The percentage was extrapolated by the author from the table in *Makati City 2000* containing statistics of Makati City on the land use of Bel-Air, Dasmariñas, Forbes Park, Magallañes, San Lorenzo, and Urdaneta. The author included in the computation roads and open spaces but excluded other figures such areas identified as commercial, institutional or recreational. Aside from these six villages, there other smaller gated villages in Makati. These six villages, however, are indicated in the city government statistics as they are organized as barangays, the smallest local government unit in the Philippines.

environment and alleviate urban density, but have in fact provided the foundation for the establishment of the premier central business district.²⁰

In contrast to the growth of its residential areas, there has been a massive depletion of open spaces and parks within Metro Manila. In 1938 forest land and parks accounted for 25.1% of the land area within the boundaries of what now forms the metropolis. In 1980, or 42 years later, parks and forest land still accounted for 20.2% of Metro Manila's land area. This trivia is both interesting and sad since 10 short years later in 1990, forest lands and parks accounted for a mere two percent of the land area of the Metropolis. Four years later in 1994, Metro Manila's urban parks and forests shrank to a measly

20. Urban Development Department, City Government of Makati, *Makati City 2000 Comprehensive Land Use Program*, 3.1 *Overall Development Vision, Goals, Strategies 7*, available at <http://www.makati.gov.ph/portal/forms/CLUP/Goals.pdf> (last accessed Feb. 20, 2009). In this portion of the Makati City's land use study, it elucidates as this thought as follows:

[T]here are several reasons why the presence of high quality, low-density residential villages should be maintained.

First, the existence of the villages is one of the key factors that contributed to the rise of Makati as the primary CBD. These villages provided the early foundation of the CBD, attracting business owners, managers, and entrepreneurs to the city and, consequently, encouraging the location of their respective businesses in Makati. This positive relationship between high quality residential housing and central business districts is evident in the development of other business districts in Metro Manila, including Ortigas and Alabang. Notably, other commercial centers like Araneta Center and Monumento have developed but the quality, level, and scale of commercial activities in these centers have not been able to match those of Makati, Ortigas, and Alabang. At present, the residential villages of Makati remain a key attraction for local as well as international businesses and embassies, and serves as a distinct market advantage over other business districts.

Second, the residential villages of Makati help maintain the compact structure of the CBD, serving as pockets of low-density developments that control the sprawl of the high-density commercial areas. Converting the villages to high-density developments expands the CBD incrementally, adding congestion to an area that is already under substantial environmental pressure. This also negates the compact structure of the CBD, even as it discourages the dispersal of growth to other parts of the city that are in a better position to handle the infrastructure and utility demands of such growth.

And third, the low-density residential villages of Makati form part of a range of housing supply that covers a diverse and wide market.

one percent of the total land area of the metropolis, a statistic made even more pathetic with the footnote that the one percent includes areas used for fishponds. In prior years, the statistical data on fisheries were included in the entry for agricultural lands.²¹ The disappearance of urban parks and forest lands should mean a reduction of the available carbon sinks within the city. A carbon sink is “a reservoir” that can absorb or “sequester” carbon dioxide from the atmosphere. Forests are the most common form of sink, as well as soils, peat, permafrost, ocean water, and carbonate deposits in the deep ocean.²² While trees at some point release carbon into the air, they are carbon reservoirs, as conditions that take in and store more carbon than they release are deemed as carbon sinks. Carbon sinks can partially offset greenhouse gas emissions.²³

Parks have been recognized as carbon sinks that help alleviate an urban phenomenon known as the “heat island effect.”²⁴ The Environmental Protection Agency of the United States (EPA) uses the term *heat island* to refer to the rise of the annual mean air temperature of an urbanized area within a city with a million people or more by 1°C - 3°C warmer than its surroundings.²⁵ Virtually all climactic elements are modified by urbanization, air temperatures, precipitation, solar radiation, wind speeds, and air circulation. The urban heat phenomenon has, in fact, been found in cities of all sizes and climate regions.²⁶ This phenomenon is due to a complex combination of artificial change in land cover, increase in anthropogenic

21. Magno-Balelesteros, *supra* note 9, at 9.

22. Climate Action Network Australia, Climate Change Negotiations Guide, available at <http://www.cana.net.au/kyoto/template.php?id=14> (last accessed Feb. 3, 2009).

23. See DAVID R. WOOLEY & ELIZABETH MORSS, CLEAN AIR ACT HANDBOOK: A PRACTICAL GUIDE TO COMPLIANCE app. L-9 (2001).

24. American Planning Association, *How cities use parks for ... Climate Change Management* 1-3 (City Parks Forum Briefing Paper, 2007), available at http://www.inpra.org/pdf/files/research/park_use/11%20%20climatechange.pdf (last accessed Feb. 3, 2009).

25. United States Environmental Protection Agency, Heat Island Effect, available at <http://www.epa.gov/hiri/index.htm> (last accessed Feb. 3, 2009).

26. J. JÄGER & H. L. FERGUSON, CLIMATE CHANGE: SCIENCE, IMPACT AND POLICY – PROCEEDINGS OF SECOND WORLD CLIMATE CONFERENCE 339-40 (1991).

heat and the generation of contaminants.²⁷ The heat island generally refers to the relative temperatures in the city in comparison to either preurban conditions or local rural-urban temperature differences. It has been observed that temperatures can vary by as much as 15°F or higher in large city centers when compared with nearby suburban or rural areas with the greatest urban-rural contrast occurring at night. The heat island actually describes a situation where an urban area's tall dark buildings, walls, concrete streets and park areas trap radiant energy.

Thus, it was deduced that the thermal properties of urban buildings result from its large exposed surfaces absorbing and retaining heat, and this in turn results in diminished nocturnal cooling of urban surfaces between sunset and midnight in comparison to its suburban or rural neighbors.²⁸ Solar absorption value is much higher in land covered with urban structures of concrete and asphalt material, aside from multiple reflections from the uneven concentration of buildings. The cooling effect by evapotranspiration is eliminated when soil is covered by urban structures and greenery is removed. Decreased wind velocity in the urban areas prevents heat and contaminants from being diffused.²⁹ When winds are calm, the heat island creates a dome over the city and when it is windy a plume of warm air will descend downwind into the city. When a lid of warmer air is placed over cooler air, this prevents the latter from rising. This creates air stagnation and traps noxious gases and particulates over a city intensifying human respiratory ailments, such as asthma and emphysema. Erratic precipitation patterns also occur in urban areas due to the cooling of the warm air as it rises due to the heat island phenomenon and the presence of greater particulate matter may induce more clouds and convectional precipitation into the city.³⁰ Thus, “[h]eat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality.”³¹

27. Akira Hoyano, et al., *Toward Creating a “Sustainable City,” in METRO MANILA: IN SEARCH OF A SUSTAINABLE FUTURE – IMPACT ANALYSIS OF METROPOLITAN POLICIES FOR DEVELOPMENT AND CONSERVATION* 224 (Tatsuo Ohmachi & Emerlinda R. Roman eds., 2002).

28. TRUMAN ASA HARTSHORN, *INTERPRETING THE CITY – AN URBAN GEOGRAPHY* 107-08 (2d ed. 1992).

29. Akira Hoyano, et al., *supra* note 27.

30. TRUMAN ASA HARTSHORN, *supra* note 28, at 108.

31. United States Environmental Protection Agency, *supra* note 25.

In the case of Metro Manila, the Manila Observatory has observed a gradual rise of temperature in the geographic area covered by the city since it began making observations in 1865. The rise in temperature followed the urbanization of Metro Manila as it changes the thermal properties of the earth resulting in higher temperatures with buildings creating obstacles to wind and altering air flows and changing moisture conditions of the surface as vegetated surface is replaced with concrete. The metropolis has grown by one hundred times its area of some five square kilometers in 1872, to 50 square kilometers in 1941 and to its current land area of 700 square kilometers. The resulting rise in temperature was conservatively estimated at about 3°C per 100 years.³² Thermal images of the buildings and pavements of Metro Manila urban area on a clear day during dry season has exhibited temperatures of 20°C higher than the air temperature as a result of the lack of greenery. Due to this, a study has called for a comprehensive review of urban land use and land cover as a fundamental solution to the heat island effect in Metro Manila. The study divided the city into a “mesh” of urban blocks corresponding very roughly to a size of a barangay. The heat island potential (HIP) is then calculated using surface and mean temperatures and the horizontal projection area. The vegetation cover ratios are also determined using map data from the National Mapping and Resource Information Authority (NAMRIA), field surveys, remote sensing data, and geographic information systems data. A land cover map was constructed, for instance, showing extremely low greenery in commercial districts along Epifanio delos Santos Avenue (EDSA) and low income residential areas. High HIP throughout the day was found in urban blocks with high concentrations of informal settlers. Through such analysis, the obvious correlation between the decrease in vegetation cover and the increase in HIP was established by scientific data. The conclusion of this study was that tree planting is one of the most effective control measures against the heat island effect in Metro Manila. Permeable surfaces created by soil on bare land are of equal importance. The recommendation was for an aggressive program for the effective use of greenery and permeable surfaces which includes tree planting, green spaces for parks, and the planting of gardens. In this way,

32. M. A. Estoque & M. Sta. Maria, *The Urban Modification of Climate in Metro Manila*, in *DISTURBING CLIMATE* 161-172 (Jose T. Villarín, S.J. ed., 2001); F.T. Cruz & J.T. Villarín, *Urban Modification of the Climate of Metro Manila, Philippines* (Proceedings of the International Association for Meteorology and Atmospheric Sciences 2005 Conference), available at http://www.observatory.ph/tmp/IAMAS2005_UHI.pdf (last accessed Feb. 3, 2009).

sustainable urban blocks will help control the heat island effect and a sustainable city may be realized.³³

Thus, urban park offsets the heat island. The trees and vegetation of a park cool the air in two ways: (1) by providing shade, and (2) through evapotranspiration, which is the evaporation of water from leaves. Parks have been observed to create “park breezes” due to the difference of temperature between the heat island and the park. The warm air from the heat island rises and sinks over the cooler air of the park resulting in a higher atmospheric pressure that can generate a small circulation of air which whiffs from the park’s high pressure area toward the urban low pressure of the heat island. The result is the displacement of the heat island’s urban warm air with the park’s cooler air. Also, urban parks reduce the precipitation anomalies attributed to urban heat islands by cooling the air above cities and removing particulates that could potentially become condensation nuclei. Finally, urban parks and forestry help sequester carbon and other pollutants trapped by the heat island.³⁴

Much of the positive effects attributed to urban parks were apparently derived from studies on urban forests. “Urban forest” is a term loosely used to refer to the entire tree population found in an urban polity,³⁵ and is also used to include the sum total of all vegetation growing within the urban area.³⁶ “Urban forestry” is the study of the trees within an urban area, including their inventory of their density and species, the effects of trees on the city’s environment and inhabitants, and the management and planning of the trees itself within the city.³⁷ One such major study is the three-year Chicago Urban Forest Climate Project by the Forest Service of the United

33. Akira Hoyano, et al., *supra* note 27, at 224-38.

34. American Planning Association, *supra* note 24. See also United States Environmental Protection Agency, Heat Island Effect: Trees and Vegetation, available at <http://www.epa.gov/hiri/strategies/vegetation.html> (last accessed Feb. 3, 2009).

35. This author’s own definition.

36. See Definition of an Urban Forest, available at http://www1.br.cc.va.us/murray/Urban_Forestry/module/overview/A101a.htm (last accessed Feb. 3, 2009).

37. See USDA Forestry Service, Effects of Urban Forests and their Management on Human Health and Environmental Quality, available at <http://www.fs.fed.us/ne/syracuse/> (last accessed Feb. 3, 2009).

States Department of Agriculture.³⁸ The scientific study focused on tree densities in various neighborhoods in Chicago where trees were found to be small and predominantly within institutional, residential and vacant lands. The study concluded that urban trees can reduce energy use by lowering summer time temperatures in buildings noting better results with higher tree densities in residential neighborhoods. Aside from trees, urban ground surfaces interact and affect gas and energy exchanges, visual quality, and human stress, among others.³⁹ Trees were also observed to remove air pollution primarily through dry deposition, that is, gaseous and particulate pollutants are transported and deposited on trees.⁴⁰ The impact of urban trees on air quality was thus observed:

Urban trees influence local air quality in various ways. First, trees can reduce or increase building energy use by shading buildings, altering air flows and lowering air temperatures through transpiration ... In turn, this change in building energy use affects pollution emissions from power plants. By lowering air temperatures, trees also can affect O₃ photochemistry and O₃ precursor emission rates, thus influencing O₃ formation ... Various tree configurations can alter wind profiles or create

38. See generally E. Gregory McPherson, et al., CHICAGO'S URBAN FOREST ECOSYSTEM: RESULTS OF THE CHICAGO URBAN FOREST CLIMATE PROJECT (United States Department of Agriculture, Forestry Service, General Technical Report NE-186, June 1994), available at http://www.fs.fed.us/ne/newtown_square/publications/technical_reports/pdfs/scanned/OCR/ne_gtr186a.pdf (last accessed Feb. 3, 2009) [hereinafter CHICAGO URBAN FOREST CLIMATE PROJECT].

39. *Id.* at 6-18.

40. David Nowak, *Air Pollution Removal by Chicago's Urban Forest*, in CHICAGO URBAN FOREST CLIMATE PROJECT, *supra* note 38, at 63. The author explained that:

Air pollution is removed from the air primarily by three mechanisms: wet deposition, chemical reactions, and dry deposition ... Wet deposition involves precipitation scavenging that includes "rainout" (transfer of pollutants to cloud droplets before they begin to fall) and "washout" (transfer of pollutants to falling rain snowdrops) mechanisms. Gas phase reactions in the atmosphere can create aerosols that are removed by wet or dry deposition or produce oxidized products such as carbon dioxide (CO₂) and water vapor. Dry deposition is the mechanism by which gaseous and particulate pollutants are transported to and dry deposited on various surfaces, including trees.

Id. at 71.

local inversions to trap pollutants such that the removal of local pollutants is enhanced ... As mentioned previously, trees emit volatile organic and other compounds that can contribute to pollution formation ... Finally, trees can intercept atmospheric particles and absorb various gaseous pollutants.⁴¹

The study concluded that larger trees with more leaf surface areas have the greatest estimated pollution removal and this is enhanced when the leaves are wet as water soluble pollutants are dissolved. While some attempt was made on calculating the monetary values of the emission control contributed by the trees, the study admits that aside from emission controls, other benefits such as human health, beauty of the trees, and improved air quality have not been included in the study's calculations.⁴² Carbon storage, which is the sequestration of carbon by trees that results in reduced atmospheric carbon dioxide, was observed to be minimal relative to the magnitude of emissions in urban area. The observation was made then that "[t]he principal ways to decrease CO₂ emissions are increasing energy conservation and efficiency and converting to non-carbon or low-carbon fuels."⁴³ Nevertheless, it acknowledged the double benefit from trees in terms of direct carbon storage and energy conservation from reduced air-conditioning. It was also observed that the greatest carbon storage was made by trees on residential land.⁴⁴ Moreover, in another more recent study by the same research group, this time of Philadelphia, it was observed that:

Trees reduce the amount of carbon in the atmosphere by sequestering carbon in new tissue growth every year. The amount of carbon annually sequestered is increased with healthier trees and larger diameter trees. Gross sequestration by trees in Philadelphia is about 16,100 tons of carbon per year with an associated value of \$297,000. Net carbon sequestration in the Philadelphia urban forest is about 11,800 tons.

Carbon storage by trees is another way trees can influence global climate change. As trees grow, they store more carbon by holding it in their accumulated tissue. As trees die and decay, they release much of the stored carbon back to the atmosphere. Thus, carbon storage is an indication of the amount of carbon that can be lost if trees are allowed to die and decompose. Trees in Philadelphia are estimated to store 530,000 tons of carbon (\$9.8 million). Of all the species sampled, tulip tree stores the most

41. *Id.* at 65.

42. *Id.* at 76, 78.

43. David J. Nowak, *Atmospheric Carbon Dioxide Reduction by Chicago's Urban Forest*, in CHICAGO URBAN FOREST CLIMATE PROJECT, *supra* note 38, at 92.

44. *Id.* at 83-92.

carbon (approximately 10.5% of the total carbon stored), while black cherry is estimated to sequester the most carbon annually (8.0% of all sequestered carbon).⁴⁵

The sheer expanse of the villages within the Metro Manila has provided the metropolis with large pockets of self contained urban forests, which are the lush tree canopies that one sees all over the city. Indeed, many of these villages carry interesting features of biodiversity amidst a barren concrete landscape. For instance, within Damariñas Village and Forbes Park, two large villages adjoining each other with a combine area of more than 300 hectares, one will be surprised to find squirrels frolicking amongst the thick foliage crowning its battalions of large trees. The trees inside Damariñas Village-Forbes Park are so dense that from a certain vantage point from outside these two villages a viewer will only see a mass of tree tops and will be easily led to believe that the area is an uninhabited forest park. The close to 700 hectare Ayala Alabang Village has 9,000 trees and its homeowners' association has decreed itself to be a bird sanctuary for the 60 known species of resident, migrant, or migratory birds that has found homes in those trees.⁴⁶ Many villages generally have their own extensive tree management systems administered by their homeowners associations with the assistance of professionals. These privately managed urban forests provide the various heat islands of Metro Manila the respite which benefits the metropolis as whole, even for those who may not freely enter these enclaves.

II. PRESENTING THE AXIOM OF THE VILLAGE AS AN URBAN ECOLOGICAL PRESERVE WORTHY OF LEGAL PROTECTION

The villages are existing living urban forests in large part due to their current state as contiguous low density residential areas that are closed to vehicular traffic with the exception of its residents and their guests. Consequently, the proposition now proffered is that the public has an interest in preserving and protecting these villages in their current state. In one study on the possible regulatory approaches in the conservation of urban forests on private properties in the U.S., it was noted that in designing tree conservation ordinances, one principle is to maintain large areas of contiguous habitat

45. David J. Nowak, et al., *Assessing Urban Forest Effects and Values - Philadelphia's Urban Forest*, RESOURCE BULLETIN NRS-6, Feb. 2007, at 8, available at <http://www.greenplanphiladelphia.com/files/Philadelphia%20RB.pdf> (last accessed Feb. 3, 2009).

46. Ayala Alabang Village Association, Foreword, available at <http://www.aava.com.ph/> (last accessed Feb. 3, 2009).

and avoid fragmenting these areas.⁴⁷ “Protecting trees in groups is the most effective way to comprehensively protect trees and the services they provide.”⁴⁸ In this vein, sensitive areas and their specific features, including the presence of historic structures, can be singled out as an ecological area on which to design a statutory regime for urban habitat protection.⁴⁹ Moreover, community support, the importance of which cannot be created by legislators, has been underscored, as it is crucial for the success of a tree conservation ordinance.⁵⁰

Villages exist and will continue to exist because its residents seek personal security and privacy that cannot be had in areas traverse by public roads due to the vagaries of local politics, an overstretched police force and the lack of public funds. In turn, these villages, administered by motivated homeowners’ associations, have ripened into ecological havens, and, for the relatively newer villages, have a potential for being such. Nevertheless, the privacy and security of the residents have been assaulted in the past by many a politician who desires access to the private roads of these villages. However, instead of assaulting these sanctuaries, the same desire which has created these urban ecological wonders can be harnessed for the preservation of these habitats and the creation of even more urban forests for the benefit of the entire metropolis. While it is the author’s thesis that these villages are worthy of legal protection as ecological habitats, a companion proposition to this thesis is that it takes only a little legislative tinkering and hardly any public funds to preserve these habitats. In so doing, the author now examines a little known, but supposedly fundamental, concept of environmental law, the airshed vis-à-vis the legal structure of the village.

47. Sandra S. Nichols, *Urban Tree Conservation: a White Paper on Local Ordinance Approaches* 5 (Montgomery Tree Committee, Sep. 2007), available at http://km.fao.org/uploads/media/Urban_Tree_conservation_a%20white_paper_on_local_ordinance_approaches.pdf (last accessed Feb. 3, 2009).

48. *Id.* at 35.

49. *Id.* at 38. Some jurisdictions have selected certain portions of their territories for special consideration. Properties singled out for this special consideration based on considerations including aesthetics, ecological, and historic value. Examples of the types of areas that are singled out include parkways, rivers, coastal zones, and other unique natural areas. Often these protections are enacted as separate ordinances, but they nonetheless contribute to effective urban forest management.

50. *Id.* at 58.

III. THE HISTORICAL AND CONCEPTUAL UNDERPINNINGS OF THE AIRSHED

The airshed is a concept that was introduced into our legal system by the 11th Congress when it enacted the Philippine Clean Air Act of 1999.⁵¹ The Clean Air Act of 1999 was the second attempt at air quality legislation. It was preceded by an intriguing near passage of a similar statute in a prior Congress. Thus, in the 10th Congress, air quality legislation was initiated in a proposed “Revised Philippine Environmental Code,” which was an “umbrella framework of all environmental laws.” The chairman of the then Committee on Environment of the Senate “did not like to pass codes because of their complexities” and preferred an environmental law specific to air rather than having the subject joined in a code together with water and waste. The Senate then passed a “Clean Air Act” while the House of Representatives passed on third reading the clean air provisions of the Revised Philippine Environmental Code.⁵² However, in the words of one of the sponsors of the current Clean Air Act of 1999, “[i]n the 10th Congress, this bill was lamentably derailed amidst confounding circumstance.”⁵³ Curiously, the sponsor of the House version of the bill in the 10th Congress was the mother of the sponsor of the bill in 11th Congress. During the interpellation on the bill in the 11th Congress, the son was not able to explain how the bill was “derailed” except to say that the bill “was supposedly going to be passed on Third Reading but circumstances which I am not exactly very familiar with or if not perhaps not privy to divulge [sic]

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51. An Act Providing for a Comprehensive Air Pollution Control Policy and for Other Purposes [Clean Air Act of 1999], Republic Act No. 8749 (1999).
 52. Briefing on H.B. 8622 before the Committee on Ecology, 10th Cong. 4-5 (Oct. 21, 1997) (given by the Roselita Paloma, Secretary of the Committee on Ecology. The chairman of the Senate Committee on Environment at the 10th Congress was Sen. Orlando Mercado).
 53. An Act Providing for a Comprehensive Air Pollution Control Policy, and for Other Purposes: Hearing on H.B. 6216, Period of Sponsorship and Debate, 11th Cong., 61 (Jan. 27, 1999) [hereinafter Hearing on H.B. 6216] (sponsorship speech of Rep. Nereus O. Acosta rising to speak as “the principal author of the Clean Air Act of 1999”).

... it was derailed before the bicameral report was supposedly ratified in the 10th Congress.”⁵⁴

Whatever were the circumstances behind the mysterious “derailment” of the first Clean Air Act bill, Senator Loren Legarda, one of its passionate sponsors during the 11th Congress, bewailed that the legislature “has missed an opportunity in passing the last iteration of the Clean Air Act in the 10th Congress.”⁵⁵ The sponsors declaimed fervently on the urgency of the proposed bill, noting that:

If anything, the failure of the bill to pass on 3rd reading in the last Congress has only managed to push us closer to an ecological abyss, especially and literally if we note the immense black clouds that shroud Metro Manila everyday, and the rising cases of respiratory illnesses and deaths caused by such ailments.⁵⁶

Finally, the law was passed by the House of Representatives on 10 May 1999 and by the Senate on 13 May 1999. On 23 June 1999, the Clean Air Act of 1999 was signed into law by the then President Joseph Estrada. It was published on 17 September 1999 and took effect on 2 October 1999.⁵⁷

54. An Act Providing for a Comprehensive Air Pollution Control Policy, and for Other Purposes: Hearing on H.B. 6216, Period of Sponsorship and Debate, 11th Cong., 69-70 (Feb. 2, 1999).

This was the response of Rep. Nereus O. Acosta to the interpellation of Rep. Feliciano Belmonte, Jr. whose query was as follows:

I see that this bill, the present Sponsor, in effect, is a second generation Sponsor of this bill. Because I remember his esteemed mother, our colleague in the Tenth Congress sponsored a similar bill at that time ... Now first by way of background, since this is not the first impression of this bill here, may I know if the Clean Air Act introduced in the Tenth Congress was actually approved by Congress?

Rep. Nereus Acosta is the son of Rep. Socorro Acosta. See *Relatives in Government*, available at <http://www.i-site.ph/Databases/Congress/13thHouse/relatives/acosta-relatives.html> (last accessed Feb. 3, 2009). His mother spearheaded the previous attempt in the 10th Congress to pass a clean air act. See also Briefing on H.B. 8622, *supra* note 52.

55. 2 Senate Rec. 160 (Oct. 13, 1998) (sponsorship speech of Sen. Legarda).

56. Hearing on H.B. 6216, *supra* note 53.

57. See Philippine Clean Air Act of 1999, 95:13 O.G. 6831 (1999).

Rep. Vicente Sandoval, a proponent of the Clean Air Act of 1999, emphasized that

It is a legislative measure which provides for an integrated and comprehensive air pollution policy in order to safeguard public health and welfare. It is based on the fundamental principle enshrined in our constitution that the state should guarantee and protect the rights of every citizen to a healthful and balance ecology.⁵⁸

In the same tenor, he underscored that the statute has moved away from the pure enforcement approach of the past, to wit:

The Act also recognizes that the purely command and control regime of dealing with environmental violators is no longer the most effective deterrence to non-compliance. It espouses market-based instruments as tools for environmental compliance and self-regulation in industries and enforces a system of accountability for short and long term adverse impacts of projects and industries.⁵⁹

Thus, the legislative intent is for a law that “embodies a *comprehensive air pollution management strategy* that lays down the framework *with a corresponding action plan* for the regulation of stationary and mobile sources of emissions to ensure cleaner and safer air for our people.”⁶⁰ The law, in turn, conceived the airshed as a designated area for air quality management with its own “common action plan.”⁶¹ In the statute’s implementing rules, the airshed was defined as “areas with common weather or meteorological conditions and sources of air pollution which affect the interchange and diffusion of pollution in the surrounding atmosphere.”⁶²

58. Hearing on H.B. 6216, *supra* note 53, at 57-58 (sponsorship speech of Rep. Vicente A. Sandoval, Chairman of the Committee on Ecology at the 11th Congress).

The constitutional provision referred to is Section 16 of Article II of the Constitution which declares as a state policy that: “The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature.”

59. *Id.*

60. 2 Senate Rec. 157 (Oct. 13, 1998) (sponsorship speech of Sen. Robert Jaworski) (emphasis supplied).

61. Clean Air Act of 1999, § 9 (“For a more effective air quality management, a system of planning and coordination shall be established and a common action plan shall be formulated for each airshed.”).

62. Rules and Regulations Implementing the Philippine Clean Air Act of 1999, Rule I, § 1 (2000) [hereinafter IRR of the Clean Air Act of 1999].

The airshed was first referred to as “Air Quality Control Zones” in the senate version of the Philippine Clean Air Act.⁶³ From the original terminology, the concept of an area for air quality control can be traced to the “Air Quality Control Regions” in the air pollution statutes of the U.S. The Air Quality Control Regions are geographical regions established for the purposes of developing and carrying out implementation plans for air pollution.⁶⁴ The Air Quality Control Region in turn can trace its beginnings to the summer of 1943 when at the peak of wartime production episodes of haze assailed Los Angeles. Sore eyes and throats and other respiratory ailments bedeviled its populace and investigations were launched to seek out the irritant. It was then that smog was first recognized, and a pollution agency was soon established and attached to the health department. The seriousness and persistence of the smog in Los Angeles resulted into the enactment of a state law, the Air Pollution Control Act, authorizing the creation of an Air Pollution Control District in every county of the state of California. The state law was signed on 10 June 1947 by California’s Governor Earl Warren.⁶⁵

The Philippine legal system’s airshed will find kinship with the Air Quality Control Region found in the statute books of the U.S. and whose early form is provided in the Air Quality Act of 1967, deemed to be the culmination of federal legislation on air pollution that began in 1955. In the 1967 law, the U.S. Secretary of Health, Education, and Welfare (HEW) was granted the power to designate the Air Quality Control Regions in conjunction with the responsibility of developing and issuing air quality criteria and information based on recommendations of pollution control techniques. After the secretary has designated the Air Quality Control Regions, the various states within a region were given a period of time to signify their intent to adopt standards based on the published criteria, to hold hearings therefor and to submit a plan to the HEW Secretary.⁶⁶ The U.S.

63. S.B. 1255, 111th Cong. § 7, in 2 Senate Rec. 142 (Oct. 13, 1998).

64. WOOLEY & MORSS, *supra* note 23, at app. L-4.

65. Air Resources Board, California Environmental Protection Agency, Key Events in the History of Air Quality in California, *available at* <http://www.arb.ca.gov/html/brochure/history.htm> (last accessed Feb. 3, 2009). See video clip on this webpage for an interesting historical overview. See Chris Casey, *Los Angeles History*, *available at* <http://www.losangeles.com/history/> (last accessed Feb. 3, 2009).

66. Alexander Rihm, Jr., *State and Local Agency Participation in Federal Air Quality Control Regions*, AM. J. PUB. HEALTH 86 (1972), *available at* <http://>

federal government apparently acted with deliberate speed in proposing Air Quality Control Regions after the law was passed, thus:

Soon after the passage of the Air Quality Act of 1967, NAPCA published a limited list of proposed regions. Shortly, another list was released, indicating that at least one region would be created in each state. It was then obvious that the 1967 Act was being used to force each state into adopting air quality standards. While one may debate, in view of the congressional findings, the value of Air Pollution on a Regional using the 1967 Act in this manner — that is, as a legal weapon rather than as a cooperative problem-solving tool — NAPCA's methods unquestionably stimulated every state to think about what kind of air quality it wished to have. It also motivated state legislatures to enact enforceable state air pollution control laws. I would suggest that perhaps, in this particular case, the end justified the means particularly for those states where air pollution laws were weak or nonexistent.⁶⁷

A key event in the legal history of air quality and pollution control in the United States was a dramatic one. Senator Gaylord Nelson, soon after his election into the U.S. Senate in 1962, worked passionately on his environmental agenda. During that period, he read an article on anti-Vietnam war teach-ins, and from there he envisaged a nationwide teach-in on environment. He wrote letters to governors and mayors of major cities to sell the idea and worked to raise funds for the first Earth Day. The turn-out on the first Earth Day, 22 April 1970 was an inspiring mass of 20 million people demonstrating their concern for the environment. Even the U.S. Congress recessed for the day so that its members can speak and participate

www.pubmedcentral.nih.gov/picrender.fcgi?artid=1530008&blobtype=pdf (last accessed Feb. 3, 2009).

The periods mentioned were 90 days to signify intent, 180 days to hold public hearings and another 180 days to submit a plan. The author of this 1972 article was the Director of the Air Pollution Control Program, New York State Department of Environmental Conservation. The paper was prepared prior to the 1970 amendments of the Clean Air Act and is good insight to the thinking at that time.

67. *Id.* at 87. NAPCA here refers to the National Air Pollution Control Administration, one of the predecessor agencies of the Environmental Protection Agency. See The National Archives, Guide to Federal Records, Records of the Environmental Protection Agency, available at <http://www.archives.gov/research/guide-fed-records/groups/412.html#412.2>. (last accessed Feb. 3, 2009).

during the day's many events.⁶⁸ A decade later, Senator Nelson writes of the first Earth Day:

My primary objective in planning Earth Day was to show the political leadership of the Nation that there was broad and deep support for the environmental movement. While I was confident that a nationwide peaceful demonstration of concern would be impressive, I was not quite prepared for the overwhelming response that occurred on that day. Two thousand colleges and universities, ten thousand high schools and grade schools, and several thousand communities in all, more than twenty million Americans participated in one of the most exciting and significant grassroots efforts in the history of this country.

Earth Day 1970 made it clear that we could summon the public support, the energy, and commitment to save our environment.⁶⁹

Much of the subsequent amendments to the environmental laws of the U.S. have been attributed to Earth Day.⁷⁰ It was partly a result of Earth Day that "the federal Clean Air Act was amended to become the first substantive and comprehensive environmental statute enacted by Congress which served as a model regulation other forms of pollution at both the state and federal level."⁷¹ There were also major revisions to the U.S. law in 1977. These, however, were deemed ineffective. On 15 November 1990, the Clean Air Act Amendments of 1990⁷² was signed into law and amendments were introduced that were of a magnitude and complexity that it spawned a flurry of rule making. The amendments included heavy reliance on market-based controls and global climate protection, among others. Quite interesting is the view that the 1990 amendments were driven by the widespread failure of the states and the EPA to attain the national ambient air quality standards for

68. David J. Webber, Senator Gaylord Nelson, Founder of Earth Day, *available at* <http://web.missouri.edu/~webberd/Nelson.html> (last accessed Feb. 3, 2009); Wisconsin Historical Society, An Overview of Earth Day, *available at* <http://www.wisconsinhistory.org/turningpoints/search.asp?id=1140> (last accessed Feb. 3, 2009).

69. Gaylord Nelson, Earth Day '70: What It Meant, *available at* <http://www.epa.gov/history/topics/earthday/02.htm> (last accessed Feb. 3, 2009).

70. *See generally* Edmund S. Muskie, NEPA TO CERCLA, The Clean Air Act: A Commitment to Public Health, *available at* <http://www.cleanairtrust.org/nepa2cercla.html> (last accessed Feb. 3, 2009).

71. WOOLEY & MORSS, *supra* note 23, at xvii.

72. The Clean Air Act, 42 U.S.C. §§ 7401-7671 (2000).

ozone set in the 1970 and 1977 amendments. The 1990 amendments were thus deemed to be an acknowledgement that 1970 Clean Air Act set unrealistic deadlines such that many areas of the U.S. did not achieve the deadline for one or more of the ambient air standards set by the law.⁷³

A reorganizational plan in 1970 transferred the functions of the HEW Secretary to the administrator of EPA.⁷⁴ The U.S. Clean Air Act, as amended, maintains the Air Quality Control Regions designated prior to 31 December 1970. It was also provided that the administrator shall, within 90 days after 31 December 1970, designate interstate or intrastate areas as Air Quality Control Regions after consultation with local or state authorities. The portion of each state which is not part of any designated region shall become an air quality control region, but such portion may be divided by the state into two or more regions upon approval of the administrator.⁷⁵ In the Clean Air Act, while the designation of the Air Quality Control Regions is chiefly an initiative of the federal government, the state governments have the primary responsibility for assuring air quality within each state.⁷⁶

73. WOOLEY & MORSS, *supra* note 23, at xvii & 4.

74. *Id.* at 1358.

75. The Clean Air Act § 107, 42 U.S.C. § 7407 (b) & (c) (2000).

The pertinent provision reads:

(b) Designated regions

...

(f) an air quality control region designated under this section before Dec. 31, 1970, or a region designated after such date under subsection (c) of this section, shall be an air quality control region; and

(g) the portion of such State which is not part of any such designated region shall be an air quality control region, but such portion may be subdivided by the state into two or more air quality control regions with the approval of the administrator.

(c) ... The Administrator shall, within 90 days after December 31, 1970, after consultation with appropriate State and local authorities, designate as an air quality control region any interstate area or major intrastate area which he deems necessary or appropriate for the attainment and maintenance of ambient air quality standards. The Administrator shall immediately notify the Governors of the affected States of any designation made under this subsection.

76. See The Clean Air Act § 107, 42 U.S.C. § 7407 (a) (2000), which reads:

Therefore, the authority is vested in the states to achieve and maintain compliance with the U.S. Clean Air Act. Each state is required to adopt a State Implementation Plan (SIP) which should contain all that is necessary to satisfy the state's obligation to attain the air quality standards required by the law and these includes "state regulations, emission inventory and monitoring network information, enforcement mechanisms, memoranda of understanding, guidance documents, and other materials."⁷⁷

IV. THE STATUTORY AND REGULATORY STRUCTURE OF THE PHILIPPINE AIRSHED

Thus, the Airshed or "Air Quality Control Zone" as originally proposed in the Philippine Senate appears to have taken its cue from the U.S. Clean Air Act. Its role was explained by Senator Gregorio Honasan in the halls of the Senate thus:

Air Quality Control Zones, or interestingly termed among environmentalists as "airsheds," will become the basis of the system of planning and coordination the Act envisions. These Zones ... are designated in accordance with climatic, topographical and other natural characteristics that affect air pollution, rather than political jurisdictions.

This kind of decentralization will enable local government units and local communities who are after all the parties most concerned to take part in cleaning up and preserving the quality of their portion of our ambient air. Guideline values and standards of ambient air quality ... will be established either on a national basis or on the level of the Air Quality Control Zones.

And the DENR may delegate to local government units the authority to administer all or some aspects of air quality management and regulation when it determines the specific local government units to have demonstrated the technical and financial ability to do so.

(a) Responsibility of each State for air quality; submission of implementation plan

Each State shall have the primary responsibility for assuring air quality within the entire geographic area comprising such State by submitting an implementation plan for such State which will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State.

See also sub-paragraph (d) (The Clean Air Act § 107, 42 U.S.C. § 7407 (d) (1) (2000), quoted in *infra* note 116).

77. The Clean Air Act § 110, 42 U.S.C. § 7410 (2000); WOOLEY & MORSS, *supra* note 23, at 24.

In areas where specific pollutants [have] already exceed ambient air standards ... the DENR will prepare and carry out a program that will prohibit new sources of the exceeded air pollutant without a corresponding reduction in discharge from the existing sources.⁷⁸

The airshed was conceived as the vehicle to manage environmental standards in conjunction with the local governments. During the interpellation in the Senate on the bill, it was explained that:

[T]he mechanism for this will begin from the designation of what we call an air quality control zone. This is not governed by any political or geographic boundaries. This will be the focal point in the sense that the ambient air characteristics that will be defined in these control zones will specifically allow the local government units to coordinate and impose certain standards and rules related to pollution control and prevention. But at the outset, this will be the area of the newly formed Presidential Air Quality Commission.⁷⁹

The Philippine Clean Air Act follows the pattern of the U.S. Clean Air Act in mandating that the Department of Environment and Natural Resources (DENR), with public participation, formulate an “Air Quality Control Action Plan” which includes the designation of airsheds.⁸⁰ In designating the airshed, the Philippine Clean Air Act provides that the basis shall be, “but not limited to, areas with similar climate, meteorology and topology which affect the interchange and diffusion of pollutants in the atmosphere, or areas which share common interest or face similar development programs, prospects or problems.”⁸¹

78. Senate Rec., *supra* note 55, at 153 (sponsorship speech of Sen. Gregorio Honasan).

79. 2 Senate Rec. 269 (Oct. 22, 1998) (interpellation re S. 1255, Sen. Gregorio Honasan to query of Sen. Aquilino Pimentel. Sen. Honasan was referring to the commission created under Executive Order No. 16 dated Aug. 21, 1998 issued by then President Joseph E. Estrada).

80. Clean Air Act of 1999, § 8.

81. *Id.* § 9. The sections reads:

Pursuant to Section 8 of this Act, the designation of airsheds shall be on the basis of, but not limited to, areas with similar climate, meteorology and topology which affect the interchange and diffusion of pollutants in the atmosphere, or areas which share common interest or face similar development programs, prospects or problems.

For a more effective air quality management, a system of planning and coordination shall be established and a common action plan shall be formulated for each airshed.

Under the statute's implementing rules, it is the Central Office of the Environmental Management Bureau (EMB) and its Regional Offices that makes recommendations to the DENR Secretary for purposes of dividing "the geo-political regions of the country into airsheds."⁸² The intention was "to subdivide the national ambient air into manageable subsets."⁸³ The aim was to achieve broader public participation in the management of airsheds.⁸⁴ The initial designation of the airsheds shall be done by the DENR through the EMB.⁸⁵ Designations of airsheds may be revised from time to time by the DENR upon recommendation of the EMB and upon consultation with local government authorities. Redesignation, as this process is called, will utilize eco-profiling techniques and scientific studies.⁸⁶

The DENR's program of designating airsheds was avowedly to allow "meteorological conditions for the prediction of air quality" to achieve compliance with emission standards. Recognition of "geo-political implementation requirements," and regional differences in public needs, as well as land use regulations were all considered part of the objectives in designating airsheds.⁸⁷ The airsheds' basis of reference shall be meteorology data on wind speed and direction and topographic maps or geographic information system generated by the National Mapping and Resource Information Authority (NAMRIA)⁸⁸ to identify areas with similar characteristics on dispersion, movement or diffusion of atmospheric pollutants. Population distribution is also one criterion; an area of at least one million people is the standard set by the DENR. Where available, information on sources of emission and air quality data and total annual emissions for nitrogen oxide, sulfur oxide, and lead emissions shall be

See also IRR of Clean Air Act of 1999, Rule I, § 1 & Rule XV, § 2.

82. IRR of Clean Air Act of 1999, Rule I, § 1 & Rule XV, § 1.

83. Department of Environment and Natural Resources (DENR), Interim Guidelines for the Designation of an Airshed, Memorandum Circular No. 2002-03, Series of 2002, § 2 (1) (June 19, 2002) [hereinafter DENR, Interim].

84. *Id.*

85. IRR of Clean Air Act of 1999, Rule XV, § 3.

86. Clean Air Act of 1999, § 9, ¶ 5; IRR of Clean Air Act of 1999, Rule XV, § 12.

87. DENR, Interim, § 2 (2)-(5).

88. NAMRIA is an agency attached to the DENR. Its function is to inventory the nation's natural resources and the agency generates useful scientific and technically proficient topographical maps and geographic information systems. *See* National Mapping and Resource Information Agency, Agency Central, *available at* <http://www.namria.gov.ph/namr.asp> (last accessed Feb. 3, 2009).

considered. Also considered in the data profile are hotspots with highly irregular or occasional events which may significantly affect air quality, such as industrial zones, highly urbanized cities or municipalities, geothermal exploration or reservations, and other areas with economic activities.⁸⁹

V. DEVELOPING AIR QUALITY STANDARDS

The setting of air quality standards has been the foundation of clean air legislation. While later pollutant-specific legislation has eclipsed the National Ambient Air Quality Standards (NAAQS) required under the Clean Air Act of the U.S., the NAAQS remains to be the cornerstone of the statute.⁹⁰ The EPA begins the process by setting the standards and later publishing these standards, together with the dissemination of available air pollution control techniques.⁹¹ The American statute provides that the EPA administrator shall set both primary and secondary standards.

Primary standards are “based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health.”⁹² The safety margin was “to address uncertainties associated with scientific and technical information available at the time of standard setting, as well as to provide a reasonable degree of protection against hazards that research has not yet identified.”⁹³ The EPA sees primary standards as “limits to protect public health, including the health of ‘sensitive’ populations such as asthmatics, children, and the elderly.”⁹⁴ Primary standards specifies the average time, amount of pollutant present in a given volume of air, i.e. concentration,

89. DENR, Interim, § 4.

The criterion of one million people was drawn from the Public Health provisions of the California Code of Regulations.

See CAL. CODE REGS. tit. 17, § 70306 Appendix 4 (West 2008; see California Office of Administrative Law, available at <http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000>. (last accessed Feb. 20, 2009).

90. WOOLEY & MORSS, *supra* note 23, at 6-7.

91. *Id.* at 7; The Clean Air Act §§ 108-109, 42 U.S.C. §§ 7408 (a) & (b), § 7409.

92. The Clean Air Act § 109, 42 U.S.C. § 7409 (b) (1).

93. WOOLEY & MORSS, *supra* note 23, at 8.

94. Environmental Protection Agency, National Ambient Air Quality Standards (NAAQS), available at <http://www.epa.gov/air/criteria.html> (last accessed Feb. 3, 2009) [hereinafter Environmental Protection Agency].

expressed in micrograms or milligrams per cubic meter or parts per million (ppm) and the form.⁹⁵

Secondary standards, on the other hand, are air quality standards that are “requisite[s] to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.”⁹⁶ In this case it has been observed that the public welfare clause addresses a wide range of the impact of pollutants on plants, wildlife and biota, property damage, aesthetic concerns, and other non-health concerns.⁹⁷ The EPA, in fact, views the secondary standards as “limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and building.”⁹⁸

The EPA sets the NAAQS on the basis of criteria pollutants for which guidelines are set in the various provisions of the U.S. Clean Air Act which also includes an initial list of source-category specific hazardous air pollutants.⁹⁹ To date, standards have been set for six criteria pollutants by the Air Quality Planning and Standards (AQPS) of the EPA as shown in the table appended as Appendix A to this Article.

In contrast, while the Philippine Clean Air Act does provide for short and long term guide values in its table of “National Ambient Air Quality Guideline Values and Standards,” there are no explicit provisions distinguishing primary standards from secondary standards.¹⁰⁰ According to one of the sponsors of the bill, the intent is to provide for primary and secondary standards but this will depend on the ability to provide for a testing and monitoring mechanism.¹⁰¹ In the House of Representatives,

95. WOOLEY & MORSS, *supra* note 23, at 9.

96. The Clean Air Act § 109, 42 U.S.C. § 7409 (b) (2).

97. WOOLEY & MORSS, *supra* note 23, at 9.

98. Environmental Protection Agency, *supra* note 94.

99. See The Clean Air Act §§ 107-109 & 112, 42 U.S.C. §§ 7408-7409 & 7412. The last section cited (The Clean Air Act § 112, 42 U.S.C. § 7412) provides guidelines and an initial list of source-category specific hazardous air pollutants.

100. Clean Air Act of 1999, § 12.

101.2 Senate Rec. 481 (Nov. 23, 1998) (interpellations regarding S. No. 1255, Senator Gregorio Honasan’s response to the interpellation of Senator Miriam Defensor-Santiago). The question and answer was as follows:

Senator Santiago. Le[t] me move on to the next question.

doubts were raised on not only our ability to set standards, but also our ability to afford those standards. The following discourse is revealing:

REP. BELMONTE. ... [b]ecause at the end of the day the problem here is really money. Even a rich country like the United States recognizes that with more money – and by money I mean an economically feasible project – then standards can be increased even more. Whereas, because we have to yield to the argument of affordability even in a rich country like the United States a certain standard which is not as high as desirable has been adopted.

Now, in the Philippines, let us assume that U.S. standards would suffice for us, can we come to that conclusion?

REP. ACOSTA. Well, Mr. Speaker, in fact the Clean Air Act sets higher standards than the United States Environmental Protection Agency.

REP. BELMONTE. Well, Your Honor, it is very easy to set higher standards. For instance, if somebody says we can allow ten micrometers or microns of this in one square meter of air, you can always say that we, only 1/8 – there is no particular merit there. What I am saying is we must have adopted some standards formulated by somebody authoritative. So, what is the authoritative body that promulgated the standards being adopted in this bill? Obviously that is not the committee and that is not the DENR that is hardly able to smell garbage even right in front of their own backyard. So, there must have been an agency or a body that came out with the authoritative super high standards that have been adopted here.

REP. ACOSTA. The Committee-level report. Mr. Speaker, considered the standards used not only by the U.S. EPA, but also those set by the European Commission, those that are applied all over the European Union countries.

REP. BELMONTE. By EPA we mean what, Your Honor?

REP. ACOSTA. Environmental Protection Agency of the United States, Mr. Speaker.¹⁰²

Thus, the air quality standards set by the Philippine Clean Air Act do not appear to have been developed after a careful and deliberate study and analysis of Philippine conditions and requirements but were motivated for

My question is this: Will the bill establish both primary and secondary standards? Is this the same as the national or AQCZ level provides in Section 11?

Senator Honasan. This is the intent, Mr. President. But I guess, again, it will all be a function of our ability to provide the testing and monitoring mechanism for this. This would be the intention — to provide primary and secondary standards.

102. Hearing on H.B. 6216, *supra* note 53, at 80-81 (interpellation by Rep. Feliciano Belmonte, Jr. with Rep. Nereus Acosta in response).

setting a lofty standard, a standard even higher than what has been set by Western nations. Aside from the European and American air quality standards mentioned, a chief proponent of the then proposed legislation alleged that the standards were based on those of the World Health Organization (WHO), which was a claim that was met with disbelief during interpellations on the bill:

REP. BELMONTE. So, okay. But you have just mentioned that our standards are higher than the United States so we can ignore EPA, because the standards we are talking about now are higher.

REP. ACOSTA. Yes, Mr. Speaker, as a baseline — as a standard by which you draw a limit of not going below that ... that is the standard, Mr. Speaker.

REP. BELMONTE. So, we can zero-in on something and say that the standards of the European Commission in charge of environment, maybe or whatever is the technical name of that is the standard that we chose?

REP. ACOSTA. Yes, Mr. Speaker, as well as those that — because those are also in line, in conjunction with the guideline values of the World Health Organization, the WHO.

REP. BELMONTE. I find it difficult to believe that the WHO standards are higher than the U.S. standards, considering that the WHO clients include Third World countries that cannot even afford a can of ...

REP. ACOSTA. Sardines. (Laughter)¹⁰³

The air quality guidelines of WHO referred to in the congressional deliberations were originally designed to offer guidance in reducing the health impact of air pollution. It was first produced in 1987 and updated in 1997 on the basis of evaluation by experts of the scientific evidence current at that time¹⁰⁴ and was initially designed for Europe. Since then it has been revised and updated.¹⁰⁵ WHO noted that its earlier guidelines can be misapplied for failure to consider local conditions, thus:

103. *Id.* at 81-82.

104. World Health Organization, *WHO Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulfur Dioxide, Global Update 2005, Summary of Risk Assessment* 5 (World Health Organization, 2006) available at http://whqlibdoc.who.int/hq/2006/WHO_SDE_PHE_OEH_06.02_eng.pdf (last accessed Feb. 3, 2009).

105. World Health Organization, *Guidelines for Air Quality* 2 (World Health Organization, 1999) available at <http://aix.meng.auth.gr/AIR-EIA/METHODS/AQGuide/AQGUIDE1-2.pdf> (last accessed Feb. 3, 2009); see also World

The WHO Air Quality Guidelines for Europe (WHO 1987) were based on evidence from the epidemiological and toxicological literature published in Europe and North America. They did not consider exposure to ambient air concentrations in developing countries and the different conditions in these countries. *However, these guidelines were used intensively throughout the world. In view of the different conditions in developing countries, the literal application of the WHO Air Quality Guidelines for Europe could be misleading. Factors such as high and low temperature, humidity, altitude, background concentrations and nutritional status could influence the health outcome after exposure of the population to air pollution.* To make the WHO Air Quality Guidelines for Europe globally applicable, a task force group meeting was convened at WHO Headquarters from 2-5 December 1997. The outcome of this meeting is this publication of the globally applicable *Guidelines for Air Quality*.¹⁰⁶

Consequently, the WHO air quality guideline that was considered applicable globally and which was probably available to the drafters of the Philippine Clean Air Act is shown in the table in Appendix B of this Article.

The understanding of the legislative committee who drafted the clean air act is that the WHO guideline values are for purposes of management of air quality. In the end, the committee allegedly drew its inspiration from a combination of standards:

REP. ACOSTA. Well, the way the Committee understood it, Your Honor, is that the guideline values which are specified under the WHO, the World Health Organization, are not necessarily intended for direct enforcement but only for air quality management purposes which will serve as a framework for each and every country which serves to adopt these

Health Organization, Protection of the Human Environment, Air Quality Guidelines, *available at* <http://aix.meng.auth.gr/AIR-EIA/METHODS/AQGuide/AQGuide.htm> (last accessed Feb. 3, 2009). The report states:

WHO's air quality guidelines were first published as Air Quality Guidelines for Europe in 1987 (WHO 1987). Since 1993 the Air Quality Guidelines for Europe has been revised and updated after a review of the literature published since 1987 (WHO 1992a; WHO 1994a; WHO 1995a; WHO 1995b; WHO 1995c; WHO 1996a; WHO 1998a; WHO 1999a). Also, the following additional compounds were considered in the review procedure: 1,3 butadiene, environmental tobacco smoke (ETS), fluoride, man-made-vitreous fibres (MMVF), and platinum. Parallel to the review of the air quality guidelines for Europe, the Environmental Health Criteria series of the International Programme on Chemical Safety has continued and the health risks of more than 120 chemical compound and mixtures were assessed between 1987 and 1998.

106. *Id.*

guideline values. So, for instance, for emissions for stationary sources of pollutant, the Committee has looked into standards like the Environmental Protection Agency of the United States for incineration specifically for dioxin and furans, the Committee is using the European Commission standards. And the guideline values for the protection of air quality management purposes or for those purposes with regards to the preventive measures to monitor air quality, we use the WHO. So, it is basically not a monolithic application of just one set of standards because there are different pollutants, there are different chemicals, and there are other different data we consider based on the sources also of pollutants whether they be mobile or stationary.¹⁰⁷

The Philippine Clean Air Act in its final form provides only an initial list of values for criteria pollutants and for source specific air pollutants. The air quality values in the bill presented to the House of Representatives for interpellation and deliberation was adopted into the law.¹⁰⁸ The Philippine Clean Air Act echoes the U.S. Clean Air Act in that the DENR, in coordination with other concerned agencies, is tasked with reviewing and publishing annually a list of hazardous pollutants with corresponding ambient guideline values or standards necessary to protect public health and safety and general welfare. The statute makes an emphatic directive to the DENR to base ambient air quality standards on WHO standards, but shall not be limited to nor be less stringent than such standards.¹⁰⁹

However, despite the declared legislative preference for supposedly superior WHO standards over the U.S.' EPA standards, the "National Ambient Air Quality Guideline Values" specified in the Philippine Clean Air Act as seen in Appendix C of this Article mirrors more closely the EPA's list of standards for criteria pollutants shown in Appendix A than the WHO table of guidelines found in Appendix B.

The air quality standards in the end were meant to be management tools to "complete the cycle" by providing inputs for local government units within the airsheds.¹¹⁰ On the other hand, for purposes of data profiling in

107. Hearing on H.B. No. 6216, *supra* note 53, at 83-84 (response of Rep. Nereus Acosta to the interpellation by Rep. Feliciano Belmonte, Jr.).

108. See H. B. No. 6216, 111th Cong., § 18, *compare with* Clean Air Act of 1999, § 12.

109. Clean Air Act of 1999, § 12.

110. 2 Senate Rec. 481 (Nov. 23, 1998) (Interpellations re. S. No. 1255, response of Sen. Gregorio Honasan to the interpellation of Sen. Miriam Defensor-Santiago). The exact words of Sena. Honasan were:

Mr. President, we would agree that the Department will have to publish the air quality standards as an initial step, and the intent of the bill requires the local government units, based on the consideration

designating air sheds, the DENR mandates the use of the following standards in its “Interim Guidelines”:

1. Total annual NO_x emissions of 40,000 tons per year
2. Total annual SO_x emission of 19,000 tons per year
3. Maximum annual Lead emission of 0.5 ton per year¹¹¹

These were based on the public health provisions of the California Code of Regulations which provide for a “screening procedure that will serve as the basis for making a pollutant-specific finding ... that the state ambient air quality standard is being attained for areas with no or an incomplete air quality data record.”¹¹² The procedure is applicable only for nitrogen dioxide, sulfur dioxide, sulfates, and lead (particulate) within an air basin of at least one million people.¹¹³ The procedure is linked with designating areas of attainment¹¹⁴ for an air basin, which is California’s version of an air quality management area similar to an airshed save that it is focused on specific pollutants.¹¹⁵ Unlike the DENR’s “Interim Guidelines”, California’s

that there are air quality control areas, to provide the inputs that would complete the cycle before we can actually begin to enforce this.

111. DENR, Interim, § 4.3 (e).

112. CAL. CODE REGS., *supra* note 89; *see* California Office of Administrative Law, *supra* note 89.

113. *Id.*

114. *Id.* § 70304 (c).

115. *See* CAL. CODE REGS. tit. 17, § 70302 (a) (West 2008), *supra* note 89.

An air basin is described as follows:

- (a) An air basin will be the area designated for ozone, nitrogen dioxide, suspended particulate matter (PM₁₀), fine suspended particulate matter (PM_{2.5}), sulfates, and visibility reducing particles. Provided, however, if the state board finds (based on air quality data, meteorology, topography, or the distribution of population and emissions) that there are areas within an air basin with distinctly different air quality deriving from sources and conditions not affecting the entire air basin, the state board may designate an area smaller than an air basin using political boundary lines to the extent practicable. In designating an area smaller than an air basin as nonattainment, the state board will include within the area those sources whose emissions contribute to a violation of a state standard for that pollutant. Contiguous areas which would have the same designation within an air basin will be one designated area.

screening procedure was not intended to be used for the designation of the air basin itself.

VI. DESIGNATING ATTAINMENT AND NON-ATTAINMENT AREAS
WITHIN THE AIRSHED

In the U.S., the original Clean Air Act adopted in 1970 called for each state to designate areas using one of three classifications: non-attainment area, attainment area and unclassifiable area.¹¹⁶ The U.S. statute describes the designation, to wit:

- (i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,
- (ii) attainment, any area (other than an area identified in clause (i) that meets the national primary or secondary ambient air quality standard for the pollutant, or
- (iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.¹¹⁷

116. WOOLEY & MORSS, *supra* note 23, at 11.

117. The Clean Air Act § 107, 42 U.S.C. § 7407 (d) (1) (2000).

The pertinent provision reads:

(d) Designations

(1) Designations generally

(A) Submission by Governors of initial designations following promulgation of new or revised standards

By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 7409 of this title, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as —

- (i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,
- (ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

The designation into attainment, non-attainment and unclassifiable areas are therefore seamlessly linked to the U.S. NAAQS.¹¹⁸

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

118. WOOLEY & MORSS, *supra* note 23 at 12.

As explained by the authors of the Clean Air Handbook:

In understanding the designation process, it is important to bear several concepts in mind. First, each area of the country is designated separately for each NAAQS contaminant. Thus, a particular area may be in attainment for one NAAQS but in nonattainment for others. Second, the size of nonattainment areas varies widely, depending on the nature of the air quality problem. Areas can range from hundreds of square miles covering multiple states to a small part of a single county. For example, EPA has classified various counties in New York, New Jersey and Connecticut as a single “severe” ozone nonattainment area. At the other end of the spectrum, until recently, EPA designated a single mountain in rural northeastern New York as its own ozone nonattainment area, based on evidence showing violations of the ozone NAAQS presumably caused by sources located upwind.

Obviously, air quality designations do not remain static. As measures are implemented to reduce emissions, air quality may improve in a region. Also, growth in population or industrial activity and/or unfavorable climate conditions may cause an area that was once in attainment to experience NAAQS violations. Under CAA § 107 (d) (3), EPA may notify a state that the designation of an area should be revised.

42 U.S.C.A. § 7407 (d) (3).

The state must then submit whatever redesignation it considers appropriate to EPA for review and approval. In addition, states can petition EPA to redesignate areas. EPA cannot approve redesignation of a nonattainment area to attainment unless certain criteria set forth in CAA § 107 (d) (3) (E) are met. 42 U.S.C.A. § 7407 (d) (3) (E).

The cited provisions on redesignation reads:

(3) Redesignation

(A) ... the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised ...

In the Philippine Clean Air Act, the DENR is also given the authority to designate “non-attainment areas” where specific pollutants have already exceeded ambient standards, in which case a program and other measures, including the relocation, are to be prepared and implemented by the LGUs in coordination “with other appropriate government agencies.”¹¹⁹ Owners of the facility identified as sources of non-compliance must submit a compliance plan within two months from notification, which plan may provide up to 18 months to meet applicable standards.¹²⁰ In short, non-

(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1) (B) (iii)), the Administrator shall promulgate the redesignation, ... making such modifications as the Administrator may deem necessary.... If the Governor does not submit, in accordance with subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation

...
(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

The Clean Air Act § 107, 42 U.S.C. § 7407 (d) (3) (2000).

119. Clean Air Act of 1999, § 10. The section reads:

Sec. 10. Management of Nonattainment Areas. —

...
In coordination with other appropriate government agencies, the LGUs shall prepare and implement a program and other measures including relocation, whenever necessary, to protect the health and welfare of residents in the area.

For those designated as nonattainment areas, the Department, after consultation with local government authorities, nongovernment organizations (NGOs), people's organizations (POs) and concerned sectors may revise the designation of such areas and expand its coverage to cover larger areas depending on the condition of the areas.

120. IRR of the Clean Air Act of 1999, rule XII, § 2.

attainment areas are those areas “which have, to put it simply, already reached standards which are dangerous, which are very hazardous, which have exceeded those baseline values that we have set or we consider as determining clean air quality.”¹²¹

Conversely, attainment areas are areas where “areas where the existing ambient air quality is at or below (that is, complies with) National Ambient Air Quality Guideline Values” provided in the regulations implementing the Philippine Clean Air Act of 1999.¹²² In the case of attainment areas, “[e]xisting sources must comply with National Emission Standards for Source Specific Air Pollution and Ambient Air Quality Standards pertaining to the source,”¹²³ and when not in compliance must likewise submit a Compliance Plan to the EMB for approval.¹²⁴

In the designation of airsheds, the EMB is tasked with determining its attainment and non-attainment areas.¹²⁵ Similar to the U.S. law, “[a]n area may be designated as non-attainment for one or more criteria pollutants, and may be an attainment area for the remaining criteria pollutants.”¹²⁶ The provisions of the Philippine Clean Air Act, however, do not provide a category for unclassifiable areas.

VII. GOVERNANCE OF AIRSHEDS

After the designation of the airshed, “a system of planning and coordination shall be established and a common action plan shall be formulated for each airshed.”¹²⁷ The legislature envisioned a board drawn from a broad range of

121. An Act Providing for a Comprehensive Air Pollution Control, and for Other Purposes: Hearing on H.B. 6216, Period of Sponsorship and Debate, 11th Cong. 244 (Mar. 9, 1999) (response of Rep. Nereus O. Acosta to the interpellation by Rep. Felicano Belmonte, Jr.).

122. IRR of the Clean Air Act of 1999, rule VIII, § 1.

123. *Id.* rule IX, § 1.

The word “source” here refers to a “stationary source” which is defined as “any building or fixed structure, facility or installation that emits or may emit any air pollutant.”

Id. rule VI, § 1.

124. *Id.* rule IX, § 2.

125. *Id.* rule XV, § 3.

126. *See* IRR of the Clean Air Act of 1999, rule IX, § 2, ¶ 2.

127. *Id.* rule XV, § 2, ¶ 2.

public and private organizations to be tasked with developing a plan for each airshed. In the words of one of the sponsors of the statute:

To create a multisectoral board chaired by the DENR which will govern air quality control zones or air shields which shall be designated, not according to political jurisdiction, but in consideration of climatic, topological and other natural characteristics that affect air pollution. For example, a regional industrial zone could, under an Environmental Impact Statement compliance program, be required to implement an independent action plan in order to meet its target.¹²⁸

Thus, the implementing rules of the Philippine Clean Air Act provides for a Governing Board to be created for each airshed to formulate and carry out its own action plans.¹²⁹ The Governing Board shall be headed by the DENR secretary as chairman and shall have as its members a composite of local government executives and representatives from concerned government agencies, the private sector and the civil society at a ratio of 5:2:2, between the government officials on one hand and the members of the private sector and civil society on the other.¹³⁰

128. Senate Rec., *supra* note 55.

129. IRR of the Clean Air Act of 1999, rule XV, § 3.

130. *Id.* rule XV, § 5. The section provides that:

- Sec. 5. Composition and Organizational Set-up of the Board. —
Each Governing Board shall be headed by the Secretary of the Department as Chairman. The members shall be as follows:
- (a) Provincial Governors from areas belonging to the airshed;
 - (b) City/Municipal Mayors from areas belonging to the airshed or the Chairman in the case of Metro Manila;
 - (c) A representative from each concerned government agency;
 - (d) Representatives from people's organizations;
 - (e) Representatives from non-government organizations; and
 - (f) Representatives from the private sector.

There shall be two Deputy Chairpersons, namely, the Department's Regional Executive Director and the Bureau's Regional Director in the region where the airshed is located. The ratio of Board representatives from government agencies to those from the private sector and from civil society shall be on the order of 5:2:2.

Within six (6) months from the designation of a particular airshed, concerned POs, NGOs and private business sector in the airshed or with recognized interests in the airshed shall choose their

The action plan is to be prepared by the Governing Board. The Governing Board shall formulate policies and standard setting subject to laws of national application and shall coordinate functions among its members. The Governing Board shall also submit and publish its own Air Quality Status Report for its airshed.¹³¹ Governing rules shall be formulated by each of the Governing Board subject to review and comments of the DENR, the latter being tasked with the obligation to advise the Governing Boards of any conflict in policies or laws of national application.¹³²

For day to day operations, an Executive Committee shall be formed. Further, to ensure broad based participation, Technical Working Groups are also envisioned by the regulations. The EMB itself shall provide the backbone of the entire governance structure of the airshed by serving as the technical-administrative secretariat for the airsheds of the Governing Boards.¹³³

The law has provided for an Air Quality Management Fund to be “sourced from fines and damages awarded to the Republic of the Philippines.”¹³⁴ This fund shall not only be used to finance containment, clean-up, and removal operations to restore ecosystems and rehabilitate areas affected by violators in air pollution cases but will also be used to fund the

representatives by and among themselves through sectoral assemblies convened for the purpose.

...

On the other hand, the third and fourth paragraphs of section 9 of the Philippine Clean Air Act of 1999 provides:

To effectively carry out the formulated action plans, a Governing Board is hereby created, hereinafter referred to as the Board.

The Board shall be headed by the Secretary of the Department of Environment and Natural Resources as chairman. The members shall be as follows:

- (a) Provincial Governors from areas belonging to the airshed;
- (b) City/Municipal Mayors from areas belonging to the airshed;
- (c) A representative from each concerned government agency;
- (d) Representatives from people's organizations;
- (e) Representatives from nongovernment organizations; and
- (f) Representatives from the private sector.

131. IRR of the Clean Air Act of 1999, rule XV, § 7.

132. *Id.* rule XV, § 11.

133. *Id.* rule XV, §§ 8-9.

134. Clean Air Act of 1999, § 14.

activities of the airsheds.¹³⁵ Thus, under its own implementing regulations, the DENR shall provide the basic funding from the Air Quality Management Fund for the conduct of the regular meetings of the Governing Boards, Executive Committees and Technical Working Groups of the airsheds, and to fund other activities for the implementation of the Philippine Clean Air Act. The regulations also provide that activities of civil societies that are included in the common action plan of the airshed will likewise be funded.¹³⁶

VIII. AIRSHEDS TODAY

Today there are 17 airsheds that have been designated, four of which are geothermal airsheds. The corresponding Governing Boards have been constituted for all the airsheds, at least on paper.¹³⁷ The airsheds include the Metro Manila Airshed and covers wide areas of the Philippines from Region 1 down to the southern regions of Mindanao. Some of the airsheds cover rather large areas. For instance, the Metro Manila Airshed includes not only Metro Manila but also the provinces of Bulacan, Pampanga, Bataan, Cavite,

135. *Id.*

The section reads:

Sec. 14. Air Quality Management Fund. — An Air Quality Management Fund to be administered by the Department as a special account in the National Treasury is hereby established to finance containment, removal, and clean-up operations of the Government in air pollution cases, guarantee restoration of ecosystems and rehabilitate areas affected by the acts of violators of this Act, to support research, enforcement and monitoring activities and capabilities of the relevant agencies, as well as to provide technical assistance to the relevant agencies. *Such fund may likewise be allocated per airshed for the undertakings herein stated.*

The Fund shall be sourced from the fines imposed and damages awarded to the Republic of the Philippines by the Pollution Adjudication Board (PAB), proceeds of licenses and permits issued by the Department under this Act, emission fees and from donations, endowments and grants in the forms of contributions. Contributions to the Fund shall be exempted from donor taxes and all other taxes, charges or fees imposed by the Government (emphasis supplied).

136. IRR of the Clean Air Act of 1999, rule XV, § 12.

137. Updates and Accomplishments (the Philippine Clean Air Act) as of December 2007, Report before the Senate Committee on Environment and Natural Resources, 14th Cong, 2 (2007) (submitted by the Environmental Management Bureau).

and Rizal. However, it took the EMB three years from the enactment of the Philippine Clean Air Act in 1999 to designate the first airshed, the Metro Manila Airshed, a far cry from the quick action of its American counterparts in the designation the Air Quality Control Regions.¹³⁸

The designation of the first nine interim airsheds and the basis of their designation were their geopolitical positions, and the constitution of the airsheds was initiated by the regional offices of the DENR. The Central Office of the EMB prepares a memorandum circular or the department order to designate the airshed based on the recommendations of these regional offices.¹³⁹ It is unclear how much of the screening procedures is done in accordance with the outline stated in the guidelines,¹⁴⁰ or how much scientific data such as wind speeds or geographical information systems were utilized in designating the airsheds. To illustrate, five years after the Metro Manila Airshed was constituted, the province of Batangas was excluded from its coverage after the EMB realized that there was a mountain range in Batangas that shields it from the air pollution of the Metro Manila Airshed.¹⁴¹

With respect to designation areas of attainment and non-attainment within each airshed, the current situation is that of a status quo, that is, all areas are considered attainment areas for now. The EMB recognizes the need to be careful in designating an area's status as strict rules may be a disincentive to industries. Scientific studies and more comprehensive monitoring still have to be made before the EMB feels confident to make any status designations. At the moment, the EMB is only monitoring total suspended particles (TSPs) as the EMB does not have enough resources to do more.¹⁴² Apparently, what is required is data to be gathered over a period of three years and the EMB is reportedly still "putting in place the requirements" to establish attainment and non-attainment areas. Consultation with the local government units, private sector and other

138. See Appendix D at the end of this article.

139. Interview by Ela Ramos Xavier with Engr. Jean Rosete, Chief of the Air Division, Environmental Management Bureau (Nov. 25, 2008) [hereinafter Interview with Engr. Jean Rosete]. Ela Ramos Xavier is an associate at the Cochingyan & Peralta Law Offices..

140. See DENR, Interim § 4.3.

141. *Id.*; see also Appendix D on the Metro Manila Airshed and accompanying footnotes. (Metro Manila Airshed was designated in 2002. Batangas was deleted from the list of provinces in the Metro Manila Airshed in 2007.).

142. Interview with Engr. Jean Rosete, *supra* note 139.

stakeholders still has to be done.¹⁴³ The 2002 National Air Quality Status Report mentions operating 11 manual stations and one automatic station monitoring mainly TSP, and that nine automatic stations and one mobile station is being rehabilitated.¹⁴⁴ Today, five years later, the EMB reports a smaller number of monitoring stations as “[t]here are eight stations of the ten station network that are complete and operational.”¹⁴⁵

The Governing Boards of the airsheds appear to be barely functional, with the Metro Manila Airshed as the only airshed that seems to be marginally active. Quorums are difficult to reach as the Governing Boards are composed largely of mayors and governors. There also has been no funding provided for the Governing Boards. While the Metro Manila Airshed Governing Board may have shown some activity in the past, there has been a total of only three executive meetings in 2008 and the interest appears to be waning. The commitment of the local government units is not apparent and the changes of elected officials discourage continued and focused participation.¹⁴⁶ The actual participation of the private sector and civil society has not been mentioned in the documents readily available to the public. The implementing regulations of the Philippine Clean Air Act provides that the private sector and civil society are to sit in the Governing Boards at a ratio of 5:2:2, the first number “5” referring to the government officials, the second number “2” to the members of the private sector and third number “2” to civil society.¹⁴⁷ The sponsors of the Philippine Clean Air Act and the policy makers at the DENR drafted the law and regulations on the assumption that there will be multisectoral interest and the concerned participation of the local government units in the Governing Boards. It

143. Philippine Clean Air Act: Meeting of the Joint Congressional Oversight Committee, 14th Cong. Oct. 13, 2008 (statements of Tess Peralta of the EMB on page 2 of the transcription by Aida Guinhawa and on page 3 of the transcription of Bathaluman H. Gonzales).

144. Environmental Management Bureau (EMB), *2002 National Air Quality Status Report* 52 (Dec. 8, 2003).

145. Environmental Management Bureau, *Ambient Air Quality Monitoring Network Metro Manila Airshed (National Capital Region, Region 3, Region 4a)*, AIRWATCH, Nov. 29, 2008, available at <http://www.emb.gov.ph/air/index.htm> (last accessed Feb. 3, 2009).

146. Interview with Engr. Jean Rosete, *supra* note 139.

147. IRR of the Clean Air Act of 1999, rule XV, § 5; see also Clean Air Act of 1999, § 9, ¶¶ 3-4.

would now appear that the EMB is left with the unfortunate task of pursuing the elusive quorum.

While the law mandates the formulation of a common action plan for each airshed,¹⁴⁸ thus far only one common action plan has been completed. The plan is for the Metro Manila Airshed and a perusal of this “common action plan” will disclose that it is a general plan with hardly any operational details. It is also evident that it is not the common action plan intended by the legislature but is mainly focused on securing funding.¹⁴⁹ This “common action plan” has been forwarded to the regional offices of the DENR all over the country to be applied as is suitable to their local conditions. It has been admitted that the plan is for purposes of funding and a more detailed operational plan may be made at some point in time. However, the goals in the plan have not been met because none of the funding for the plan has been released.¹⁵⁰

The law mandates that the DENR annually prepares an Air Quality Status Report and to review, revise and publish annually a list of hazardous air pollutants with corresponding guideline values and standards to protect public health or safety.¹⁵¹ This prompted one legislator to comment:

REP. ARROYO ... The concept of this bill is very laudable. But on the whole, I think that what this bill amounts to — the bill is actually just authorizing the Department of Environment and Natural Resources to set the standards and to enforce it.

The point is that the standards are not set here. A law must set standards. Take for instance ... Section 12, it reads: “The Department shall prepare an annual National Air Quality Status Report ...

Mr. Speaker, I thought that before this bill was prepared, the authors had already this information — the extent of pollution in the country, the per type of pollutant and per type of source. It would seem that the proponents of the bill do not have this information because the department did not

148. Clean Air Act of 1999, § 6 & § 9 ¶ 2.

149. The Strategic Plan of the Metro Manila Air Shed Governing Board for the Use of the AQMF 2007-2011 (July 18, 2007).

150. Interview with Engr. Jean Rosete, *supra* note 139; Interview by Ela Ramos Xavier with Steve Serafica, Member of the Technical Secretariat of the Metro Manila Airshed headed by Engr. Jean Rosete (Feb. 20, 2009) [hereinafter Interview with Steve Serafica] (Steve Serafica advised the interviewer that the Air Quality Management Fund is expected to be released sometime in March of 2009.).

151. Clean Air Act of 1999, § 12.

submit. So we are leaving it again to the department to just implement — they will find out the pollution in the country and then they will be the ones to implement it. *This is no law ...*

...

My problem is, that what we are saying here is that we are passing on the job — the formulation to some other entity. *So, it is as if we drafted a bill and we are telling others: All right, you do it, you fill in the blanks, and that's it.*¹⁵²

This legislator need not worry. Since the enactment of the Philippine Clean Air Act in 1999, only two national air quality status reports have been released.¹⁵³ A third one is supposed to be released within 2008 but it has not yet been released as of this writing.¹⁵⁴

Air quality standards are the *raison d'être* of an air quality management law. The airsheds were constituted to manage these standards, and the sponsors of the bill were passionate about setting standards that are even higher than those of Western countries. While the law delegates air quality standard setting to the Executive Department, in the same breath, the law prohibits the Executive Department from setting standards that are less stringent than the standards of WHO. The result is an administrative impasse. There has not been any significant review or revision of these guidelines as revision would only mean that the EMB can only make it more stringent. After all, the standards set by the statute are as lofty as the ideals on which the law was passed. On the practical side, it was noted that the EMB does not have its own research capabilities; consequently, it was felt that it is best to simply just adopt the studies of WHO.¹⁵⁵ The reluctance of the EMB to tamper with these standards by way of an annual review was underscored by one official when she objected to a proposal to delete the statutory standards in favor of delegating standard setting to the DENR for fear that

152. Hearing on H.B. 6216, *supra* note 53, at 61-62, 64-66 (interpellation of Rep. Joker P. Arroyo) (emphasis supplied).

153. EMB, *supra* note 144; Environment Management Bureau, *The National Air Quality Status Report* (2003-2004) (Dec. 8, 2005).

154. Interview by Sheryl Bartolome with Petra Aguilar of the Environmental Management Bureau (Oct. 21, 2008). Sheryl Bartolome is an associate at the Cochingyan & Peralta Law Offices.

A follow-up interview by Ela Ramos Xavier of Steve Serafica reveals that the lay-out of National Air Quality Status Report (NAQSR) for 2005-2007 is being prepared as of the writing with the intention of releasing this report sometime soon.

155. Interview with Engr. Jean Rosete, *supra* note 139.

do so will be “more political.”¹⁵⁶ Hence, the directive in the Philippine Clean Air Act for the annual review of air quality standards is condemned to remain a statutory curiosity.

The root of the administrative gridlock is the lack of funding. In 1999, during deliberations in Congress on the cost of implementing the Philippine Clean Air Act in the airshed of Metro Manila and other outlying provinces, and to have a separate study for Cebu and other outlying urban centers, it was mentioned that “on a ballpark figure, the technical committee would be roughly estimating anywhere between Php200 million to Php400 million to be able to really oversee the kind of ambient quality standard set forth in this bill.”¹⁵⁷ Thus, the statute has installed a mechanism to automatically fund the objectives of the clean air law through the Air Quality Management Fund to be raised from fines and damages paid by polluters.¹⁵⁸ This fund is now over Php200 million, but not a single centavo has been released. Indeed, there is no recollection of any sum released from the Air Quality Management Fund since the Philippine Clean Air Act took effect.¹⁵⁹

The Earth Day ceremonies of 22 April 1970 is recalled and pictured there is Senator Gaylord Nelson speaking before a crowd at the University of Wisconsin, declaring:

Our goal is an environment of decency, quality, and mutual respect for all other human creatures and for all living creatures ... The battle to restore a proper relationship between man and his environment, between man and other living creatures will require a long, sustained, political, moral, ethical, and financial commitment — far beyond any effort made before.¹⁶⁰

The commitment called for by Senator Nelson to restore the environment has yet to find its way into the hearts and minds of all those

156. Meeting of the Joint Congressional Oversight Committee, *supra* note 143, at 4-5 (statement of Tess Peralta of the EMB).

157. An Act Providing for a Comprehensive Air Pollution Control Policy, and for Other Purposes: Hearing on H.B. 6216, Period of Sponsorship and Debate, 11th Cong. 77-78 (Feb. 9, 1999) (response of Rep. Nereus O. Acosta to the interpellation by Rep. Vicente Sandoval).

158. Clean Air Act of 1999, § 14; IRR of the Clean Air Act of 1999, rule XV, § 12.

159. Interview with Engr. Jean Rosete, *supra* note 139; *see also* Updates and Accomplishments, *supra* note 137, at 3; Interview with Steve Serafica, *supra* note 150.

160. Webber, *supra* note 68.

concerned in the government and the private sector in the Philippines. Sadly, in our country, the environment cannot garner a quorum.

In the meantime, there are the villages.

IX. THE LEGAL STRUCTURE OF THE GATED COMMUNITY

The village relies on three legal structures for its continued existence and the maintenance of its character as a low density residential area. The open spaces consisting of roads, alleys and recreational parks that it controls as its private property; the restrictive covenants regulating the use of the lots belonging to the homeowners; and the homeowners association that oversees and regulates the open spaces and the deed of restrictions. The three concepts are intimately linked to each other and, as they are so intertwined, must be discussed together.

In the current state of the law, the homeowners' association must be registered with the Housing and Land Use Regulatory Board (HLURB) in order to acquire juridical personality.¹⁶¹ Similar corporate rules on governance, documentation of governing structure and transparency apply to homeowners' associations.¹⁶² Original and exclusive jurisdiction over homeowner's associations and controversies on deeds of restriction lies with the HLURB.¹⁶³

The law also requires the developer of a subdivision to reserve 30% of its gross area for open spaces.¹⁶⁴ For the most part, villages own and administer

161. Housing and Land Use Regulatory Board, Framework for Governance of Homeowners Associations, HLURB Resolution No. 770-04, § 2 (2004).

162. See HLURB Resolution No. 770-04 (2004); Housing and Land Use Regulatory Board, Rules on the Registration and Supervision of Homeowners Associations, HLURB Resolution No. 771-04 (2004).

163. Metro Properties, Inc. v. Magallanes Village Association, Inc., 473 SCRA 315 (2005).

The ratio of this case mentioned that the exclusive and original jurisdiction is with the Home Insurance and Guaranty Corporation (HIGC). However, in footnote 10 of the same case it was noted that under Section 26 of Republic Act No. 8763, the powers and responsibilities of the HIGC were transferred to the Housing and Land Use Regulatory Board.

164. The Subdivision and Condominium Buyers' Protective Decree, Presidential Decree No. 957, as amended by Presidential Decree No. 1216 (1978), § 31 (1976).

the roads, alleys, sidewalks and parks found within them, pay real estate taxes on these properties and hold title over them. The ownership over the open space was acquired by way of donation to the Homeowners' Association within the meaning of the last paragraph of the cited provision.

A different conclusion is made when the open space is still owned by the developer. When a barangay hall was built on the village's open space that was formerly used as a basketball court, it was held that the village's homeowner's association cannot object to having the edifice fenced. The Court found that the fact that the developer still owned the open space and the fact that the barangay hall was built with government funds both exclude the homeowners' association from exercising any act of administration over

Sec. 31. Roads, Alleys, Sidewalks and Open Spaces. — The owner as developer of a subdivision shall provide adequate roads, alleys and sidewalks. For subdivision projects one (1) hectare or more, the owner or developer shall reserve thirty percent (30%) of the gross area for open space. Such open space shall have the following standards allocated exclusively for parks, playgrounds and recreational use:

- (a) 9% of gross area for high density or social housing (66 to 100 family lot per gross hectare).
- (b) 7% of gross area for medium-density or economic housing (21 to 65 family lot per gross hectare).
- (c) 3.5% of gross area low-density or open market housing (20 family lots and below per gross hectare).

These areas reserved for parks, playgrounds and recreational use shall be non-alienable public lands, and non-buildable. The plans of the subdivision project shall include tree planting on such parts of the subdivision as may be designated by the Authority.

Upon their completion as certified to by the Authority, the roads, alleys, sidewalks and playgrounds shall be donated by the owner or developer to the city or municipality and it shall be mandatory for the local governments to accept; provided, however, that the parks and playgrounds may be donated to the Homeowners Association of the project with the consent of the city or municipality concerned. No portion of the parks and playgrounds donated thereafter shall be converted to any other purpose or purposes

See also Revised Rules and Regulations Implementing the Subdivision and Condominium Buyer's Protective Decree (PD 957) and Other Related Laws, Rule I, § I (B) (1) (a) and (C) (2001).

the property. It was held that acts of administration are effectively an act of ownership.¹⁶⁵

Where the open spaces are not protected by contract and are originally intended by the developer to be used as both commercial and residential areas, there is little that the residents of a village can do to reverse the commercialization of that portion of their village. This was discovered by the residents of Bel-Air Village despite the prior history of the disputed area being enclosed by a wall. In this case, the Supreme Court ruled that the ordinances directing the opening of Jupiter Street in Makati City to commercialization has overtaken any liability that the developer may have with respect to maintaining the character of the street as a residential area of Bel-Air Village.¹⁶⁶ In the same vein, the Supreme Court found no evidence that the residents have a contractual right to have the area enclosed by a wall.¹⁶⁷ As a result of this ruling, the Supreme Court, three years later, allowed a homeowner in Bel-Air Village to retain her hot *pan de sal* establishment along Jupiter Street with the observation that, since the passage of the re-zoning ordinance in question the street has become highly commercialized.¹⁶⁸ Noting that commercial buildings, offices, restaurants and stores have sprouted in the area, the Court found it unreasonable that the homeowner's *pan de sal* is singled out for enforcement of restrictive covenants on residential use.¹⁶⁹

On the other hand, the Supreme Court has shown no patience when a government agency abuses its authority to encroach upon the private roads of a village.¹⁷⁰ Thus, when the Metropolitan Manila Development Authority (MMDA) attempted to force Bel-Air Village to open Neptune Street, a private street within the village, for public use, the Supreme Court declared that the MMDA does not have the power to enact ordinances, particularly

165. United BF Homeowners' Associations, Inc. v. The Barangay Chairman, 501 SCRA 216 (2006).

166. Sangalang v. Intermediate Appellate Court, 168 SCRA 634, 667 (1988)

167. *Id.* at 658-59.

168. Presley v. Bel-Air Village Association, Inc., 201 SCRA 13, 20 (1991).

169. *Id.*

170. Metropolitan Manila Development Authority v. Bel-Air Village Association, Inc., 328 SCRA 836 (2000).

zoning ordinances under its charter.¹⁷¹ The Supreme Court minced no words when it declared:

Not infrequently, the government is tempted to take legal shortcuts to solve urgent problems of the people. But even when government is armed with the best of intention, we cannot allow it to run roughshod over the rule of law. Again, we let the hammer fall and fall hard on the illegal attempt of the MMDA to open for public use a private road in a private subdivision. While we hold that the general welfare should be promoted, we stress that it should not be achieved at the expense of the rule of law.¹⁷²

The Court emphasized that good intentions and serious traffic conditions cannot justify the illegal actions of the MMDA, thus:

We stress that this decision does not make light of the MMDA's noble efforts to solve the chaotic traffic condition in Metro Manila. Everyday, traffic jams and traffic bottlenecks plague the metropolis. Even our once sprawling boulevards and avenues are now crammed with cars while city streets are clogged with motorists and pedestrians. Traffic has become a social malaise affecting our people's productivity and the efficient delivery of goods and services in the country. The MMDA was created to put some order in the metropolitan transportation system but unfortunately the powers granted by its charter are limited. *Its good intentions cannot justify the opening for public use of a private street in a private subdivision without any legal warrant. The promotion of the general welfare is not antithetical to the preservation of the rule of law.*¹⁷³

Deeds of restrictions are limitations created by contract between the first buyer of the lot and the developer setting up restrictions on the use of the lot. These are then carried over to the subsequent buyers when the restrictive covenants are annotated on the Torrens title. Restrictive covenants do not, strictly speaking, create easements or rights but are servitudes or a burden on the property of the homeowner living in the village. The most common form is the negative easement or reciprocal negative easement created by agreement. These covenants preclude an owner from doing an act on his property that he would normally be entitled to do if the deed of restrictions does not exist. While the Court has generally viewed "restrictive covenants with disfavor for being a restriction on the use of one's property," it has "nevertheless, sustained them where the covenants are reasonable, not contrary to public policy, or to law, and not in restraint

171. *Id.* at 848-49 (citing An Act Creating the Metropolitan Manila Development Authority, Defining its Powers and Functions, Providing Funding Therefor and for Other Purposes, Republic Act No. 7924, § 6 (1995)).

172. *Id.* at 839.

173. *Id.* at 863 (emphasis supplied).

of trade. Subject to these limitations, courts enforce restrictions to the same extent that will lend judicial sanction to any other valid contractual relationship.”¹⁷⁴

Because the freedom to associate includes the freedom not to associate, a person cannot be compelled to be a member of a homeowners’ association through the simple expedient of including his or her name in the Articles of Incorporation and By-laws of a homeowners’ association. There must be voluntary assent; otherwise there will be no privity of contract. This is a truism in cases where the property was purchased *sans* annotation on the Torrens title of automatic membership in the homeowners’ association.¹⁷⁵

But in the case of deeds of restrictions arising from contract and/or annotated on the title of those who subsequently acquired the property, the requirement that the property owner pay association dues to the homeowners’ association and to become a member thereof was held to be a valid stipulation and a valid restraint on one’s ownership over the property. Restrictions requiring that the lot be used only for residential purpose for a single family residential building with two meter easements on the side and rear of the lot were also held to be valid. The Court generally recognized the wisdom of the objectives of such restrictions

to avoid overcrowding both in the houses and in the subdivision which would result in pressure upon the common facilities such as water, power and telephone connections; accelerate the deterioration of the roads; and create problems of sanitation and security in the subdivision.” In the same manner, the Court appreciates the need for restrictions “for aesthetic consideration[s] and for the preservation of the peace, beauty, tranquility, and serenity¹⁷⁶

of those residing inside a village. The Supreme Court has rejected arguments that such restrictive covenants partake of a stipulation *pour autrui* or are contracts of adhesion where a party has freely agreed to be bound by the deed of restrictions. Once a party purchases a property within a village, it is understood that such party took the same free from all encumbrances except the notations at the back of the certificate of title containing the deed of restrictions.¹⁷⁷ Moreover, the Court does not give credit to arguments based

174. Fajardo v. Freedom to Build, 337 SCRA 115, 119 (2000).

175. Sta. Clara Homeowners’ Association v. Gaston, 374 SCRA 396 (2002).

176. Cariday Investment Corporation v. Court of Appeals, 176 SCRA 31, 37 (1989).

177. South Pachem Development. Corporation v. Court of Appeals, 447 SCRA 85, 92-95 (2004) (citing Cariday Investment Corporation v. Court of Appeals, 176

on estoppel where a violator of a restriction raises the defense that the enforcing party failed to apply such deeds of restrictions on other parties.¹⁷⁸ In general, deeds of restrictions have been upheld as sacrosanct contractual obligations and the Supreme Court has not been hesitant to punish those who violate such restrictions. In the case of completed buildings, however, the Court chose to charge violators with hefty sums for damages in lieu of ordering the demolition of the offending structure.¹⁷⁹

Nevertheless, the Supreme Court has long held that such deeds of restrictions must yield to the State's police power, such as when a zoning ordinance changes the character of the area from that of a residential area to one that is commercial.¹⁸⁰ In such cases, the Court has not been bashful in taking judicial notice of changes in the conditions of a locality, and has in fact noted the bustling EDSA with flourishing industrial and commercial complexes in one landmark case.¹⁸¹ In these situations, the landowners were allowed to build commercial structures on their residential lots.¹⁸² To illustrate, in *United BF Homeowners' Associations, Inc. v. The City Mayor of Parañaque*,¹⁸³ portions of the sprawling subdivision were classified by ordinance as a commercial zone. The superiority of police power over the non-impairment clause was noted and it was held that restrictive covenants cannot deter the exercise of police power. The fact that the petitioning homeowners' association endorsed the issuance of permits to commercial establishments in prior years was not helpful to their cause. In the end, the zoning ordinance was declared constitutional. In a very recent challenge to another Metro Manila landmark village, the MMDA has sought to remove a portion of a wall between EDSA and the botanical gardens of Corinthian

SCRA 31 (1989) and *Bel Air Village Association, Inc. v. Dionisio*, 174 SCRA 589 (1989)).

178. *See Ayala Corporation v. Ray Burton Development Corporation*, 294 SCRA 48, 63-66 (1998).

179. *See Ayala Corporation v. Rosa-Diana Realty and Development Corporation.*, 346 SCRA 663 (2000); *Ayala Corporation v. Ray Burton Development Corporation*, 294 SCRA 48 (1998).

180. *Ortigas & Co. Ltd. v. Court of Appeals*, 346 SCRA 748 (2000) (in this case the lot was fronting Ortigas Ave. in the Greenhills area).

181. *Ortigas & Co. Ltd. v. Feati Bank & Trust Co.*, 94 SCRA 533, 546 (1979).

182. *Ortigas & Co. Ltd.*, 346 SCRA 748; *Ortigas & Co. Ltd.*, 94 SCRA 533.

183. *United BF Homeowners' Associations, Inc. v. The City Mayor of Parañaque*, 515 SCRA 1, 4-5 (2007).

Gardens. The botanical gardens are also subject of expropriation proceedings targeted at paving over the gardens to widen EDSA. A case filed by the Corinthian Gardens homeowners' association against the MMDA is now pending before the courts.¹⁸⁴

X. THE VILLAGE, AN ECOLOGICAL PRESERVE —
AN ENGINE FOR THE ENVIRONMENT

In sum, villages are under constant pressure to surrender its common areas for direct public use, to commercialization in general and to conversion to concrete monstrosities from some of its own residents who desire to maximize the use of their property without regard to their neighbors and their community. The legal system, while affording villages and the homeowners' association some protection, nevertheless seems to accept stoically as fate and the march of time the eventual loss of these communities.

The people are then compelled to constantly witness the urban greenery torn from their roots as cement is poured over gardens. The past has seen how the charming tree-lined historic districts, Sampaloc, Malate, Ermita to name a few, lose their soul as trees and landmark buildings disappear. These trees are cut down as a misguided necessity as they block the entrances of new structures that subdivide what was in the past a larger home. Worse, other trees are cut down as a mere afterthought or to give way to parking spaces that serve as frying pans to heat our tropical city.

There is hardly any legislation that touches on greenery within the villages. Laws, regulations and even proposed bills only deal with new subdivision developments but are silent with respect the urban forests that are now within the villages. A law passed more than three decades ago requires the owners of existing subdivisions to plant trees in open spaces reserved for common use as well as along roads and service roads of the subdivision.¹⁸⁵ The rules implementing this law require the planting of shade trees five meters apart along roads within a subdivision. Shade trees are defined as "large trees with profused [sic] branches and extended laterally at least four meters in height." Ornamental trees which are defined as "medium-size trees with less profused [sic] primary branches and attain a

184. Corinthian Gardens Association Inc. v. Metro Manila Development Authority, Civil Case No. Q03-49779 (Regional Trial Court, National Capital Judicial Region, Branch 90, Quezon City, June 9, 2003).

185. Requiring the Planting of Trees in Certain Places and Penalizing Unauthorized Cutting, Destruction, Damaging and Injuring of Certain Trees, Plants and Vegetation, Presidential Decree No. 953, § 1 (2) (1976).

maximum height of three meters” are required to be planted alongside electrical power distribution lines at distances of three meters. Coconuts and high growing plants are prohibited along designated planting strips. Finally, the number of trees to be planted must be at a ratio of one tree per saleable lot.¹⁸⁶ Two proposed Senate bills on sustainable forest management both contain an urban forest provision which states that 50% of the open space required under existing law for subdivisions to be developed be devoted to planting of trees or tree parks.¹⁸⁷ None of these laws or proposed bills mentions the mature urban forests that abound all over the city within decades old villages. They abound without the protection of law, while all benefit from these urban forests regardless of whether or not they may enter these villages. It is these urban forests that are under constant threat from those in pursuit of their own vision of a fast paced modern city.

When the Philippine Clean Air Act of 1999 was enacted, foremost in the lawmakers minds was the pollution in Metro Manila, citing WHO’s studies ranking Metro Manila as the world’s fourth most polluted city;¹⁸⁸ a study by the University of the Philippines College of Public Health in 1994 where between 65-80% of the metropolis’ residence are at risk due to suspended particulates in their own homes;¹⁸⁹ studies of Asian Development Bank, the Philippine Environmental Quality Report on the pollution caused by vehicles.¹⁹⁰ It has been nearly a decade since that law was passed. The full potential of its carefully structured provisions, from air quality management through the airsheds up to the designation of attainment and non-attainment areas are yet to be realized. Amendments, perhaps, may be in order. Some immediately come to mind, such as the elevation of the EMB as an independent agency with larger powers including standard setting or the simplification of airshed management systems, or the review of air quality standards by creating a more flexible standard that will match our resources. But this will be a long and tedious process. The Philippine Clean Air Act is a

186. Housing and Land Use Regulatory Board, HLURB Memorandum Circular No. 29 (amending the Revised Supplemental Rules and Regulations to Implement PD 953 (2005)).

187. S.B. No. 80, § 28, 14th Cong., (June 30, 2007); S.B. No. 372, § 29, 14th Cong., (July 2, 2007). The former bill was introduced by Sen. Loren Legarda and the latter by Sen. Jinggoy Ejercito Estrada.

188. Senate Rec., *supra* note 60.

189. Senate Rec., *supra* note 55, at 158.

190. Hearing on H.B. 6216, *supra* note 53, at 55 (speech of Rep. Vicente Sandoval).

highly technical law and upon the shoulders of our more diligent legislators lay the task of learning, understanding and explaining to their colleagues the science of air quality management regardless of the presence or absence of a scientific or technical background.

In the meantime there are the villages, urban forests in the midst of the smoke and smog of polluted Metro Manila, self-sustaining, self-governed, with a high level of awareness for the environment. It baffles why anyone could even entertain the thought of transforming these ecological preserves into concrete deserts. These islands of greenery can be sub-areas of attainment not only for the purpose of alleviating the heat island effect but also to influence other areas surrounding it to accept environmental standards. Once empowered, these villages will maintain and expand their roles as physical environmental oases. At the same time, the villages can transform themselves into mental, emotional and spiritual engines for the regeneration of the environment adjacent to them. The villages can be human monitoring stations and can assist in raising air quality standards. As these villages are already self-governed, they can adopt self-help measures to improve air quality. For instance, the vehicles that pour out from these villages most likely comprise a large percentage of the vehicles on the road. Depending on the income levels of these communities, a village homeowners' association can encourage its residents to install emission reducing devices on their vehicles by the simple process of charging more for resident's entry stickers for vehicles with substandard emissions and lower rates for vehicles with effective emission control. The villages are better organized to participate in recycling projects and waste segregation as well. More complex measures can include incentives to residents for allocating a larger portion of the homeowner's lots to gardens.

All these can be done at no cost to the government, a proposition that will find many followers in light of that non-event, the Air Quality Management Fund. All that needs to be done is to empower the villages by strengthening the three legal vehicles that have preserved their character through the decades. These are, as mentioned earlier, the legal protection provided by the restrictive covenants in the titles of the homeowners, the legal control of the common areas and the legal personality of the homeowners associations. Perhaps in recognition that the current legal structure may be insufficient to protect these villages, several bills have been filed in today's 14th Congress providing for a "Magna Carta" for homeowners.¹⁹¹

191. S. B. No. 2072, 14th Cong., 1st Sess. (Feb. 8, 2007); S.B. No. 182, 14th Cong., 1st Sess. (June 30, 2007); S. B. No. 1586, 14th Cong., 1st Sess. (July 1, 2004).

On the restrictive covenants, requiring local government units to respect these deeds of restriction in terms of zoning and land use planning should be considered. The homeowners' associations can also be given the explicit authority to enforce these restrictions against erring homeowners, including the right to assess fines and penalties that are enforceable in court and the power to deny or restrict a violator's access to the common areas of the village. The homeowners' associations must also be given the power to expand restrictive covenants in order to aggressively encourage larger homeowners' gardens, reduced land use for man-made structures and concreted surfaces, and promote tree planting within the homeowners' lots in order to increase the urban forest cover.

On the common areas and open spaces, the last paragraph of Section 31 of "The Subdivision and Condominium Buyers' Protective Decree" provides that the roads, alleys, sidewalks and playgrounds shall be donated to the government but only parks and playgrounds may be donated to the homeowners' association with the consent of the city or municipality concerned.¹⁹² It is recommended that all common areas, including roads and alleys be placed in the hands of the homeowners association both in terms of ownership and exclusive control. In the case of a new development, the developer should be legally mandated to donate all common areas, especially roads, to the homeowners' association. More importantly, as already proposed by some senate bills, exclusive authority to manage and control access to these common areas should be vested in the homeowners' association.¹⁹³ A provision should protect the villages from further encroachment and hostile aggression by the local government authorities and other government agencies such as the MMDA.

With respect the homeowners' association itself, while membership in the homeowners association cannot be made compulsory unless arising out of contract or from the annotation on the homeowner's title, there could be no violence against the freedom to associate if those who opt not to be members be subject of assessments and other restrictions from the association for the use of common areas. Otherwise, there will be a case of unjust enrichment on the part of village residents who through the mere expediency of alleging freedom of association excuse themselves from their

The former bill was introduced by Sen. Miriam Defensor Santiago and the latter by Sen. Juan Miguel Zubiri.

192. Regulating the Sale of Subdivision Lots and Condominiums, Providing Penalties for Violations Thereof, Presidential Decree No. 957 § 31 (1976).

193. S. B. No. 2072 § 5 (D) & (E), 14th Cong., 1st Sess. (Feb. 8, 2007); S. B. No. 1586 § 5 (4) & (5), 14th Cong., 1st Sess. (July 1, 2004).

obligations as members of a community. Finally, the homeowners' associations should be granted the power to participate in emissions trading.

U.N. Agenda 21 has recommended that governments should involve non-governmental organizations in mechanisms to carry out sustainable development, especially in fields of environmental protection and rehabilitation by making the best of their particular capacities.¹⁹⁴ There should be no quarrel with this since, as early as 1992; whole-hearted conformity to Agenda 21 had already been expressed and a council for sustainable development had already been initiated.¹⁹⁵ The villages are experienced and successful managers of their environs and it is but only legislative wisdom to reinforce the ability of the villages to maintain their communities as low-density residential areas and their character as urban forests and eco-preserves. The villages in turn can help achieve what is envisioned in the Philippine Clean Air Act of 1999.

XI. THERE'LL BE A HOT TIME IN THE OLD TOWN TO-NIGHT

"There'll be a hot time in Manila that night," so goes a line in the popular war song "*There'll be a Hot Time in the Old Town To-night*" sang by the 13th Minnesota Volunteers as they sailed into Manila in 1898.¹⁹⁶ Speaking of

194. *Strengthening the Role of Non-Governmental Organizations: Partners for Sustainable Development* § 27.10 (c) (U.N. Department of Economic and Social Affairs, Division for Sustainable Development, Agenda 21), available at <http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter27.htm> (last accessed Feb. 3, 2009).

195. Office of the President, Creating a Philippine Council for Sustainable Development, Executive Order No. 15 (Sep. 1, 1992).

196. TRUMBULL WHITE, *OUR NEW POSSESSIONS 153-154* (1898).

Come along, get you ready, for we're going to the war,
But it's nothing new to Minnesota, for she's been there before,
We're going to lick the Spaniards, who are anxious for a fight,
But for some unknown reason they keep quite out of sight.

CHORUS

Please, oh please, Mr. Spaniard, do not run,
For now that we are started we are bound to have some fun,
And when we reach the Philippines we'll put you on the bum,
There'll be a hot time in Manila that night.

The song was a favorite of U.S. troops during the Spanish American War of 1898. The tune was composed 12 years before the Spanish-American War by Theodore Metz, a leader of a band called "*McIntyre and Heath Minstrels*." The

songs, in 1898 an American correspondent described a Philippine national march in a manner that may no longer be recognized, thus:

The Filipinos have a national march ... and [it] is the tune which the insurgents have used to inspire them in their battles against the Spanish rulers. The melody is simple as that of "Yankee Doodle," but it has plenty of animation and swing, and the change of key in the refrain gives it variety.¹⁹⁷

In contrast, today, the National Anthem is sung with a drowsy rhythm losing much of the passionate cadence of those who first unfurled the Philippine flag of independence. The same can be said of the Philippine Clean Air Act. The statute was proposed by its sponsors in the legislature with feverish passion but today its implementation grinds agonizingly with the absence of resources. It has been 10 years since the legislators declaimed on the urgency of a clean air act. Beseeking across party lines, they warned that time is running out, but as a decade closes on the Philippine Clean Air Act of 1999, time has instead stood still on the statute that they have so lovingly massaged into being. Perhaps it is because the law's standards have ironically triggered a paralysis in the bureaucracy. But with so much pressure from the law's high ideals, no measure of treasure was provided to move it forward. An abundance of time and debate may resolve this, what is already in existence must be worked with. The village is an ecological emerald within the urbanized airshed. Empower the village and the village can become spores of attainment that can spur environmental renewal within an airshed. But should efforts in preserving these last bastions of greenery in the city falter, there'll be a hot time in the old town tonight.

tune was inspired by a scene of African-American children during a fire in Old Town, Louisiana. The band played the tune during street parade marches. In 1896, lyrics were added to the tune by Joe Hayden and it became the personal anthem of Teddy Roosevelt's Rough Riders in Cuba. (Hot Time in the Old Town Tonight, *available at* <http://history.sandiego.edu/GEN/snd/hottime.html> (last accessed Feb. 3, 2009). Apparently, it was also a personal anthem of U.S. troops in the Philippines. The lyrics quoted here were reportedly written by Burt D. Carrier of the Thirteenth Minnesota Volunteers.

197. *Id.* at 152.