Senate Economic Planning Office

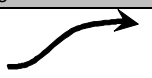
Philippine 'Brown' Environment Quality

At a Glance

November 2005 AG-12-2005

The table below outlines the current trends in selected quality indicators of our 'brown' environment which focus on air and water pollution and solid waste management problems.

Selected Indicators of Philippine Brown Environment Quality

Indicators	General Trend	Status and Comments	Priority Level
Air pollution			
Ambient Total Suspended Particulates (TSP) level in Metro Manila, Cebu, Davao, Baguio		Declining particulate concentrations in urban centers but annual averages still exceed national standards. Non-conventional and area sources like biomass burning and re-suspended dust need controlling.	☆☆
Number of highly polluting vehicles on Metro Manila roads		Declining number of polluting vehicles and rising production of cleaner motorcycles and vehicles. But rapidly rising vehicle population points to urgent need for public transport management.	☆☆
River and coastal water quality			
% population with access to sanitation and sewerage		Access to sanitation rising slowly. Urban access to piped sewerage in Metro Manila is very low (8%) as the investments in sewerage are	☆☆☆
Contamination of groundwater		Total coliform contamination increasing with domestic wastewater accounting for majority of the pollution	☆☆☆
% industrial waste treated		More waste treated but the total production as well as illegal solid, toxic/hazardous waste, dumping is rising.	☆☆
Solid hazardous waste			
Solid and hazardous waste generated		Total waste generation is rising with population while services are not keeping up with the demand.	☆☆☆
% of waste recovered for recycling		More LGUs practicing ecowaste management. Level of composting and recycling is rising.	☆☆☆
% of residual waste disposed in environmentally sound manner		Open dumping and burning continue as main means of disposal	☆☆

Source: World Bank, Philippines Environment Monitor, 2004: Assessing Progress
Note: ☆ = level of priority of government; TSP - Total suspended solid

Pollutants from different sources, Metro Manila, 2001 (In metric tons)

Pollutant/Source	Emission
Nitrogen Oxide	**799,575**
Area	684,816
Stationary	4,999
Mobile	109,760
Sulfur Oxide	**14,721**
Area	3,641
Stationary	11,080
Mobile	-
Carbon monoxide	**1,086,383**
Area	137,224
Stationary	967
Mobile	948,192
TOTAL	**1,900,679**

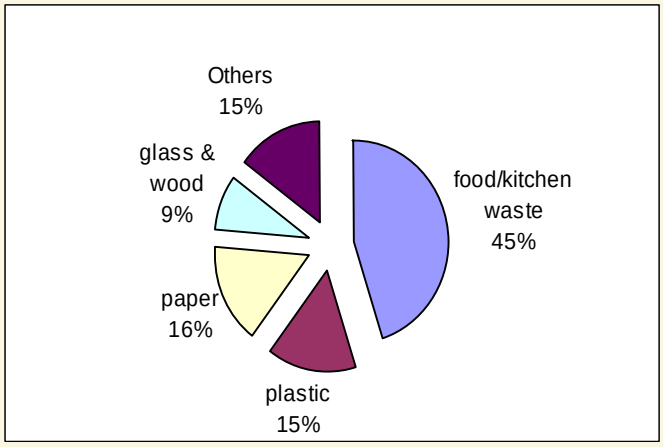
Source: NSCB, Compendium of Philippine Environment Statistics, 2004
*mobile source - primarily vehicles
*area source - burning and construction work
*stationary sources - burning of coal and oil in electrical or heating engines

Air pollution

- The transport sector continues to be a big contributor to air pollution. In 2003, there were 4.3 million registered vehicles in the country - a threefold increase within the past two decades.
- Diesel emissions from buses, jeepneys, utility vehicles, and trucks are estimated to be the largest contributor to urban air pollution, and are also recognized carcinogens.
- The health costs of particulate matter (PM10) pollution in the cities of Metro Manila, Davao, Cebu and Baguio in 2001 was estimated at more than $400 million, which account for 2.5% to 6.1% of per capita income in these cities, or 0.6% of the country's gross domestic product.

Solid Waste Generation and Disposal

Figure 1. Composition of Solid Waste Generated from Households, 2004



Source: WorldBank, Philippines Environment Monitor, 2004

Solid Waste Disposal in Metro Manila, 2004

Landfills	acceptance
Carmona, Cavite	40%
San Mateo, Rizal	50%
Collection efficiency of solid wastes*	
Urban	70%
Rural	40%

*collected and brought to dumpsites
*uncollected garbage is burned or thrown indiscriminately

- An average Filipino generates 0.3 and 0.5 kgs. of garbage daily in rural and urban areas, respectively. A recent Asian Development Bank (ADB) 2004 study showed that 6,700 MT of waste is generated daily in Metro Manila composed mostly of food/kitchen wastes . Annual waste generation is expected to grow 40% by 2010.

- Disposal remains problematic with only 9 of 117 cities and 46 of 1,500 municipalities having solid waste management plans.

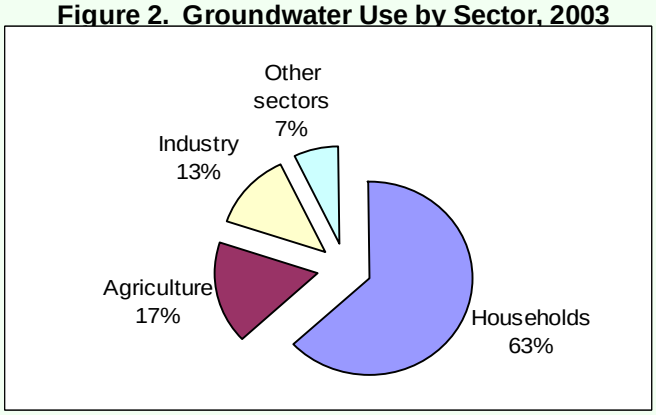
Groundwater Usage and Demand

- Within South Asia, the Philippines ranks among the lowest in terms of annual freshwater availability per capita despite having 421 river basins in 119 proclaimed watersheds. Country water demand is expected to increase from 1,303 cu. m. in 1995 to 3,955 cu. m. in 2025.

- As of 2003, 86% of the total population has access to an improved water source; with 79% and 91% access in rural and urban areas, respectively. However, 26% of Manila residents (3 out of 12 million) are still not connected to piped water.

- Households were the top consumer of groundwater in 2003. The agriculture sector, meanwhile, had the highest sectoral demand for groundwater at 85%.

Figure 2. Groundwater Use by Sector, 2003



Source: WorldBank, Philippines Environment Monitor, 2004

Groundwater Use by Sector, 2003, (In percent)

Sector	Consumption	Demand/Requirement
Households	63	15*
Industries	13	
Agriculture	17	85
Other sectors	7	n.a.
*15% combined demand for households and industries		

Glossary of Terms:

Carbon monoxide – colorless, odorless and poisonous gas produced by incomplete fossil fuel combustion. CO combines with the hemoglobin of human beings, reducing its oxygen carrying capacity.

Coliform Index – rating of water purity based on fecal bacteria count. (UN Glossary of Environment Statistics)

Hazardous wastes – wastes that, owing to their toxic, infectious, radio-active or flammable properties, pose a substantial actual or potential hazard to the health of humans and other living organisms and the environment. (*NSCB Compendium of Environment Statistics, 2004*)

Nitrogen oxide – product of combustion from transportation and stationary;major contributor to acid depositions and the formation of ground level ozone.

Particulate Matter – fine liquid or solid particles, such as dust, smoke, mist, fumes or smog, found in air or emissions. (UN Glossary of Environment Statistics).

Sulfur oxide – colorless gas emitted from burning of coal and oil; very irritating to the respiratory system.