

# Abstract

## SPECIAL EVENTS:

Technical and Policy Workshop  
on Sustainable Nutrient  
Management in Support of the  
Asian Platform of Global  
Partnership on Nutrient  
Management

## Assessment and Planning for Nutrient Management – Manila Bay Case Study

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Following a number of studies in recent years indicating that nutrient enriched Manila Bay is episodically hypoxic, and cognizant of a ruling by the Supreme Court of the Philippines directing twelve national government agencies to clean up, preserve, and rehabilitate Manila Bay, the GEF/UNEP Project “for reducing nutrient enrichment and oxygen depletion from land based sources” chose Manila Bay as a demonstration site to show how technical and scientific information on nutrient discharge and processes in the bay might help to provide basis for nutrient reduction strategies and policy options.

Using population and statistical data fed into point source and agricultural models, we estimated the contribution of nitrogen and phosphorus principally coming from human population and the agriculture sectors in the various watersheds that feed into Manila Bay. We tested several scenarios comparing baseline (year 2010) and projected (year 2050) situations with varying degrees and amounts for extent of sewage treatment as well as population growth rates.

The results show that domestic waste may be a more significant source of nutrients into Manila Bay as compared with agriculture. Moreover, results of the model scenarios show that with the continued high population growth (driven principally by migration into Metro Manila), nutrient loading from the domestic sector will continue to increase even with improvements in sewage treatment. Encouraging or legislating the sale and use of phosphate-free detergents could significantly decrease the phosphorus load into the bay, without need for substantial government or private sector investments. Government support towards the development of and investments in other growth areas outside Metro Manila also will help decongest a densely populated megacity and reduce nutrient inputs into Manila Bay.



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**About Gil S. Jacinto:**

Dr. Gil S. Jacinto is currently a professor at the Marine Science Institute of the University of the Philippines Diliman, and member of the Advisory Committee of the IOC Subcommission for the Western Pacific (IOC-WESTPAC). He served as Regional Coordinator for Marine Pollution Monitoring and Information Management of the GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas; and National Technical Focal Point (Philippines) for the GEF/UNEP South China Sea Project on Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand. He is currently co-principal investigator for the development of regional models of coastal effects focusing on Manila Bay for the GEF/UNEP Global Foundations for Reducing Nutrient Enrichment and Oxygen Depletion from Land Based Pollution. Dr. Jacinto has a doctorate degree in marine chemistry from the University of Liverpool, England.