Conserve and rehabilitate Manila Bay’s natural assets to sustain ecosystem services; undertake these activities within a holistic approach to economic development

Measuring ecosystem services and economically valuing them shows considerable benefits to society indicating the need to conserve the natural assets of the Bay. While the original study site was the LPPCHEA, interactions among the ecosystem services entailed analysis of the larger zone of influence of the proposed reclamation plan – the entire Manila Bay. This calls for situating any reclamation proposal within the broader plan for rehabilitating and preserving the Manila Bay. Such plan should include the identification of go and no-go zones for specific activities including land reclamation and serious steps to solve shallow water conversion to fishponds and the pollution of the Bay that emanates from Metro Manila and its surrounding areas.

Address equity

There will be inevitable gainers and losers from future changes in the uses land and marine ecosystems in Manila Bay. The anticipated gainers from reclamation are future real estate developers with new commercial and residential establishments, users of new roads and other transport facilities, and local government units earning higher revenues from prime property taxes. The likely losers are the informal settlers, fishers, hotels with diminished sunset views, and commercial establishments at the current, premium seaside locale. The high potential gains from reclaimed land could enable revenues to be generated for the compensation of the losers for which the payment mechanisms need to be properly designed.

Develop mechanisms for capturing all economic values

Only the provisioning and recreational values from ecosystem manifest in market transactions. The other values are un-appropriated; but may be captured through policies on carbon payments, and mechanisms for capturing the willingness to pay for the avoidance of storm damage, continued existence of wildlife habitat, and bequest for the subsequent generations. Examples of such mechanisms are payments to local conservation trust funds as well as grants from the Global Environmental Facility.

Continue efforts to value ecosystem services

The significant outcome of this project is not only in determining the value of ecosystem services, but also the realization that in most decisions on projects affecting the ecosystem, the contribution of the ecosystem is, in many cases, ignored. Although the project team only managed to value all but a sub-set of the services provided by Manila Bay ecosystems, the benefit-cost ratios were nonetheless higher for the with-restoration options versus without-restoration. Also, the project highlighted the importance of including conservation and rehabilitation in reclamation projects in Manila Bay in view of the declining provision of ecosystem services that provide benefits to potential losers of the proposed reclamation.

This country study provided the process and tools for estimating the value of ecosystem services based on facts and science. There are ecosystem services that, at present, can be quantified and have monetary values. But they will require further assessments and scientific work.

The computed value under-measures total economic value since it does not yet include the global importance of migratory birds, as well as impact of sea-level rise. In addition, the existence and economic values pertain only to a limited set of stakeholders in communities around the Bay and not the stakeholders among the general populace in the entire Manila Bay and the international community.

Refine the Philippine EIA and project evaluation system

The Philippine EIA and project appraisal systems should be reformed in order to fully account for the environmental, economic and social impacts all together, identify the corrections to reduce negative impacts, and formulate mechanisms to enable the compensation of the losers.

Para más información: http://www.teebweb.org/areas-of-work/teeb-country-studies/Philippines

THE LAS PIÑAS – PARAÑAQUE CRITICAL HABITAT AND ECOTOURISM AREA (LPPCHEA) AND ECOSYSTEMS OF MANILA BAY

The TEEB Philippine Country Study is part of the cross-country effort to pilot the TEEB methodology that aims to make values of ecosystem services visible in policy and management decisions. Following the scopes and stakeholder consultation in 2014, the study is focused on policy and management decisions related to changes in coastal ecosystems in Manila Bay, particularly the 750-hectare Las Piñas–Parañaque Critical Habitat and Ecotourism Area (LPPCHEA), the only natural, wetland sanctuary for waterbirds in the heart of Metro Manila.

Declared a “Critical Habitat” in 2007 by Presidential Proclamation No.1412, and a Wetland of International Importance (Ramsar Site) in 2013, LPPCHEA attracts migratory birds as well as indigenous and endemic species including some that have been clearly threatened by the International Union for Conservation of Nature (IUCN). There are similar bird conglomeration sites within the Manila Bay. These and the Bay’s ecosystems have been affected and continue to be threatened by anthropogenic activities such as habitat encroachment, land reclamation, pollution, and risks from climate change and geologic hazards.

Following the Philippine government’s approval of the Philippine Reclamation Authority (PRA) Resolution 4161 in 2011, the PRA plans to implement, through Public-Private Partnership, thirty-eight (38) reclamation projects encompassing 26,234 hectares affecting LPPCHEA and mudflats, mangroves, ponds, and marine ecosystems.

This analysis seeks to examine the management of these continuing threats by applying TEEB analytical approaches including the economic valuations of the biophysical, cultural and monetized goods and services of the Bay’s ecosystems, including the LPPCHEA. Such analysis helps ensure that the policy and decision-makers are better informed of the true economic value of natural capital and their ecosystem services that would lead to improved economic and environmental management.
**Pathway 1: Without Future Reclamation**

In Scenario 1, the value added from the Manila Bay ecosystems is $106.3B, primarily due to the mangroves ($56.4B) and coral reefs ($35B). The ecosystem services included are provisioning ($62B), cultural ($27B), and regulation ($17B). The net present value is calculated at 6% per annum, and the benefits are $106.3B, which is a considerable value.

**Pathway 2: With Future Reclamation**

In Scenario 2, the value added from the Manila Bay ecosystems is $11.8B, primarily due to the mangroves ($5.8B) and coral reefs ($3B). The ecosystem services included are provisioning ($4B), cultural ($2B), and regulation ($1B). The net present value is calculated at 6% per annum, and the benefits are $11.8B, which is a reasonable value.

**Pathway 3: Decade-old PRA Reclamation Plan**

In Scenario 3, the value added from the Manila Bay ecosystems is $19.8B, primarily due to the mangroves ($10B) and coral reefs ($9.8B). The ecosystem services included are provisioning ($14B), cultural ($4B), and regulation ($1B). The net present value is calculated at 6% per annum, and the benefits are $19.8B, which is a considerable value.

**Pathway 4: Decade-old PRA Reclamation Plan with Rehabilitation**

In Scenario 4, the value added from the Manila Bay ecosystems is $10.4B, primarily due to the mangroves ($5.4B) and coral reefs ($4.6B). The ecosystem services included are provisioning ($8B), cultural ($2B), and regulation ($0.4B). The net present value is calculated at 6% per annum, and the benefits are $10.4B, which is a reasonable value.

**Comparative Values of Ecosystem Services by Scenario**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Provisioning Services</th>
<th>Cultural Services</th>
<th>Regulation Services</th>
<th>Total Value</th>
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<td>Scenario 1</td>
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<td>$17B</td>
<td>$106.3B</td>
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<tr>
<td>Scenario 2</td>
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<tr>
<td>Scenario 4</td>
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</table>

**POLICY AND MANAGEMENT IMPLICATIONS**

Reexamine the land reclamation plans. Past land reclamation activities and pollution into Manila Bay have caused considerable decline of its natural assets particularly the mudflats, coral reefs, sea grasses, mangroves, water quality, and marine life. If these threats continue, a decade-old proposal to further reclaim Manila Bay could generate high net benefits. But this exacerbates into the buffer zone and reduces water flow around the LPPCHEA, other mudflats and mangroves could eventually cause decimation of wetland habitat and wipe out the protection that it provides against storm surges. Reexamination of land reclamation plans is needed to lower risk to the Bay’s ecosystems, strengthening rehabilitation efforts and enhance protection from climate change and reduce exposure from geological hazards. The exploration of a Potential Environmental Clearance Certificate for the decade-old reclamation plan offers the opportunity for better planning for the future of Manila Bay and its ecosystems. Collaboration with international best practices are implemented to minimize damages on ecosystems and livelihood losses by the poor.