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Resource Gap and Benchmarking Protected Areas: A case study in the Philippines

Protected areas in the Philippines continue to be threatened by human exploitation. This is aggravated by government underinvestment in protected areas, which has not been adequately addressed in a more responsive manner. An EEPSEA study examined the financing gaps of protected areas across 16 regions of the Philippines using a benchmarking methodology.

The study is the work of Alexander D. Anda and Marlon M. Atienza of the Resources, Environment and Economics Center for Studies, Inc. Results show that if 2009 national benchmarks are used, it is estimated that there is a shortfall of 1,478 staff and USD 8.4 million in operating expense in the 79 protected areas sites covered by the study (1,509,557 hectares in total). It is recommended that the Department of Environment and Natural Resources pursue the enactment of mandates or enabling laws for each protected area to include the organization and staffing pattern that will be used for the site as well as allow each site to contract out protected area management or to co-manage the area with interested local government units as well as to upgrade the general entrance fee and other charges, among others.

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Strengthening local capacity in the economic analysis of environmental issues

The Economy and Environment Program for Southeast Asia (EEPSEA) was established in May 1993 to support training and research in environmental and resource economics across its 10 member countries (i.e., Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Papua New Guinea, the Philippines, Thailand, and Vietnam.) It aims to strengthen local capacity for the economic analysis of environmental issues so that researchers can provide sound advice to policy makers.

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A summary of EEPSEA Research Report No. 2013-RR16: 'Fiscal Gap and Financing Protected Areas in the Philippines' by Alexander D. Anda, Jr. and Marlon M. Atienza. Comments should be sent to Alexander D. Anda, Jr., Resources, Environment and Economics Center for Studies, Inc., Suite 405, The Tower at Emerald Sq., J.P. Rizal cor. P. Tuazon Sts, Proj. 4, Quezon City 1109, Philippines. Email: anda.alexander@gmail.com.

Underinvestment in Philippine protected areas

Protected areas in the Philippines were established by Republic Act No. 7586, otherwise known as the 'National Integrated Protected Areas System (NIPAS) Act of 1992', to protect biodiversity and shield these areas from human exploitation. As of 2009, there are no less than 238 protected area (PA) sites across the country, representing 18% of the total land area. Although protected, each PA continues to experience different levels of habitat degradation, incompatible land degradation, and overharvesting or overutilization of natural resources, which is also aggravated by the growing population (i.e., 2.04% annual growth estimate). All these are exerting persistent but varying degrees of internal and external pressures on PAs.

There has been no clear, specific, and purposeful assessment of the resource gaps and other problems besetting individual PAs. While each PA is unique in its profile and characteristics, benchmarking PAs could be helpful in comparing one from another. Without this information, it would be difficult for the government to prioritize and distribute its limited resources for conservation.

Benchmarking PA resource gaps

This EEPSEA study examined the financing gaps using benchmarking methodology, and assessed the threats and management response of PAs across 16 regions of the country. Marine PAs and those that fall within the Autonomous Region in Muslim Mindanao were excluded. Data from mail and field interviews with Protected Area Superintendents (PASu) and senior Department of Environment and Natural Resources (DENR) officials were used. Of the 222 PAs that are under the jurisdiction of DENR in the 16-region study area, data from 79 PAs were benchmarked.

The study also evaluated the extent of internal and external threats to PAs in terms of the population of settlements outside its boundaries, inhabitants within its boundaries, number of visitors, and length of roads and trails. These are considered threats due to the human exploitative activities or pressures associated with the presence of these factors, like the use of PA natural resources for their needs, which lead to resource degradation. Management responses to these threats are indicated by the resources allocated for PA protection such as the number of DENR staff assigned and the PA's'operating expenses.

PA staffing and expenditures increase with threats

Results show that PA staffing increases with the settlement population outside PAs and the number of inhabitants inside PAs (Figure 1). Likewise, visitors and roads within PAs affect its staffing positively. However, this effect is only up to a certain degree; the relationship becomes negative at a certain point as shown in Figure 2.

PA operating expenses also increase with outside population, inhabitants, visitors and roads (Figures 3 and 4). However, the relationship of expenditures with both outside population and length of roads is weaker as compared to its relationship with number of inhabitants and visitors. Clearly, PA management tends to spend more as inhabitants and visitors increase than if the increase is in the population outside PAs or in the length of the road network.

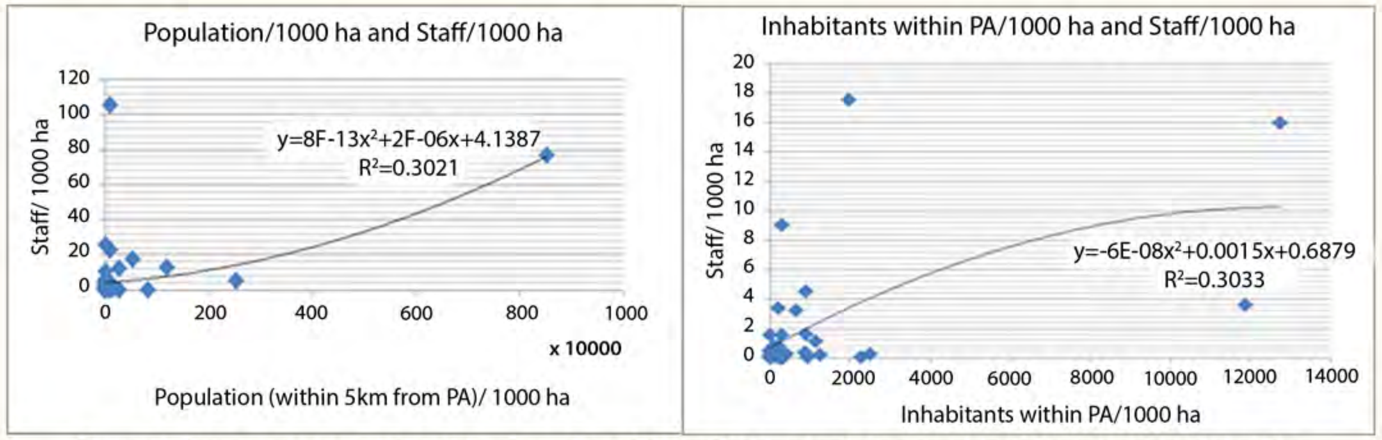

Figure 1. Dose-response relationship of number of PA staff with population outside (left) and within (right) PAs

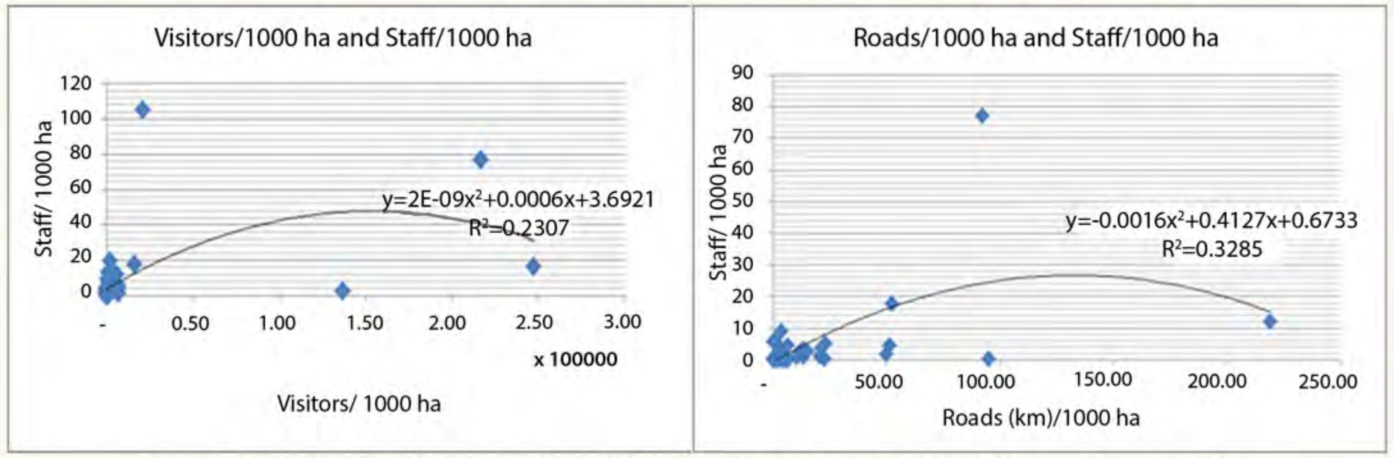

Figure 2. Relationship of number of PA staff with number of visitors (left) and length of roads (right)

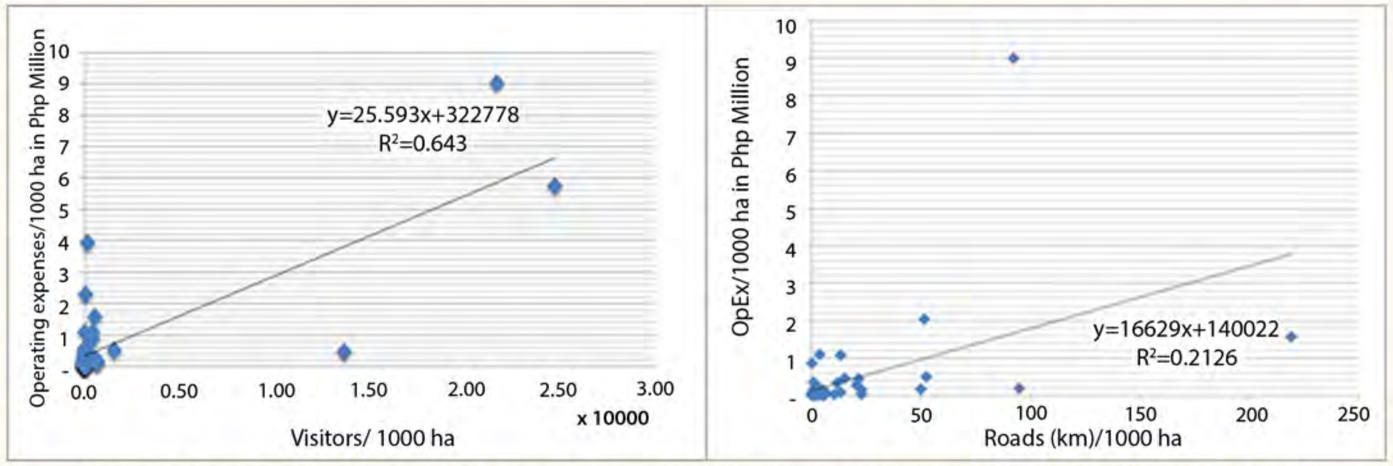

Figure 3. Relationship of amount of operating expenses with number of visitors (left) and length of roads (right)

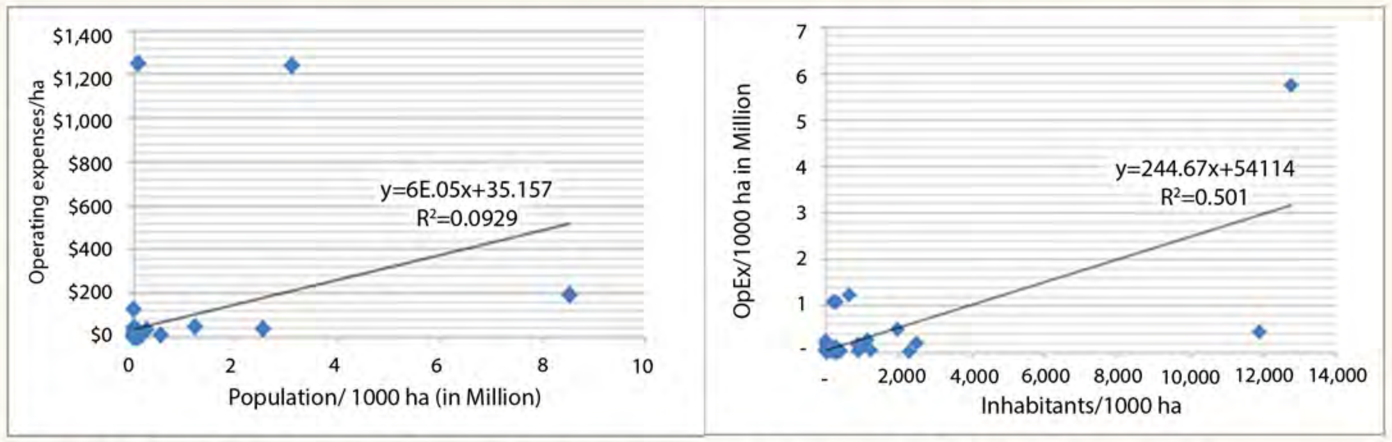

Figure 4. Relationship of amount of operating expenses with population outside (left) and within (right) PAs

PA fee structure 16 years old

Currently, the primary source of revenue of PAs is the national budget allocated by the national government (61%) while provincial governments and international donors contribute 13% and 11% of their funds, respectively. Fees and concessions account only for 11% of their funds (Figure 5).

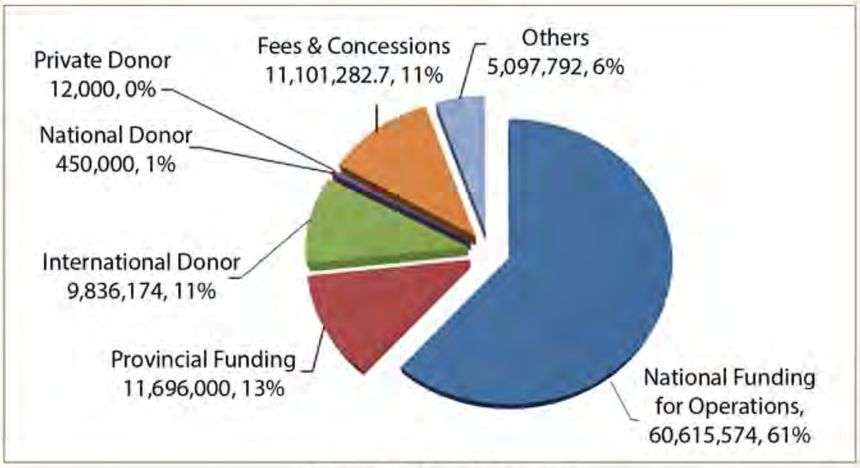

Figure 5. PA fund sources

Guidelines and principles for determining fees for access to and the sustainable use of resources in PAs were set in 2000 under DENR Administrative Order 2000-51. Unfortunately, many PAs have not pursued this approach as changes to fee structure and levels require PA Management Board (PAMB) resolutions, which have not been approved.

In the absence of approved PAMB resolutions on fees and charges prescribed for a particular area, the existing fee structure and levels that can be imposed are to be based on a 1995 government regulation, DENR Administrative Order 1995-5 on "Regulating and Prescribing Fees for Use of Facilities inside National Parks and Other Protected Areas." This generally sets an entrance fee of PhP 2.50 (US$0.05) per visitor. Considering that this amount was set 16 years ago and is considered very low at current price, if this amount has not been amended by a resolution in a particular PA, then the total fees collected will not even be able to recover the expenses for fee collection itself.

Shortfall in staff and operating expenses

The study grouped PAs covered into four clusters or sizes: small, medium, large, and very large. The average and highest values for staff per 1,000 hectares and expense per hectare were obtained per cluster. If the below-average PAs are included in the average cluster, and the above-average PAs in the highest cluster value, it was computed that the DENR has a total shortfall of 411 staff and USD 2.34 million in expenses for the 79 benchmarked PAs in 2009. In total, all 79 benchmarked PAs cover an area of 1,509,557 hectares, which translates to an average of 19,108 hectares per PA.

If 2009 national benchmarks are used, it is estimated that there is a shortfall of 1,478 staff and USD 8.4 million in operating expense for the 79 benchmarked PAs. This is a low estimate considering the relatively low average of Philippine PAs in terms of staff and operating expenses as compared to many of its Asian neighbors. However, it is a good starting point if realistic and practical enhancements are to be made to improve PAs against the national averages, which were attained by size clustering. The next stage could be to improve the standard of Philippine PAs using benchmarks for the Southeast Asian region and at the international level.

Policy recommendations

However, increasing staff and budget is hindered by contemporary problems like restrictions in hiring of new staff, depletion of current DENR staff, and insuffient fees or revenue collections. To remedy this, DENR may pursue the enactment of mandates or enabling laws for each PA to include the organization and staffing pattern that will be used for the PA as well as allow them to pursue the following, among others: a) contract out PA management or to co-manage the area with interested local government units; b) pursue a continuing capacity building program for PASu, PA staff, and PAMB members; c) establish a transparent and adequate collection system and other management systems per PA; d) upgrade the general entrance fee and other charges set in 1995 using the cost recovery and 'willingness-to-pay' principles; and e) allocate budget to individual PAs, instead of lump sum appropriation to the regional office.

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