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Opportunities and Challenges in Managing Protected Areas of the Philippines

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ABSTRACT

This paper consolidates the findings of several management teaching cases on Protected Area management which includes, among others: the Puerto Princess Subterranean River, the Tubbataha National Park, the Olango Wildlife Sanctuary, the Apo island Seascape and landscape, and the Rajah Sikatuna Park. The research on which this paper is based was initially an action research project designed for participants to understand the workings and functioning of the NIPAS system, identify its management issues and gaps, and produce classroom materials. The research was undertaken in line with the mission of AIM to contribute to the growth of Asian societies by training managers and leaders.

A common problem faced by park area managers is a perennial funding crunch. Some NIPAS areas showed success in surmounting this funding obstacle by exploiting the ecotourism potential of their location. The paper suggests the need for park area managers to acquire additional skills beyond their traditional biological expertise and learn to build alliances with the private sector and other stakeholders for resource mobilization.

Introduction

The research on which this paper was based was originally an exploratory and applied research exercise. It was designed for participants to understand the functioning and workings of the NIPAS system, identify its management issues and gaps, and determine what can be done in order to improve its operations. This research was undertaken in line of and consistent with the mission of AIM to contribute to the sustainable growth of Asian societies and the training of development managers.

A SWOT framework was used to study the NIPAS system to determine the issues and challenges in its external environment as well as the gaps in the implementing units involved, i.e. the DENR Park Superintendent (PASU) office. The SWOT is a management tool for situation analysis undertaken as prelude to strategic planning. Its use was criticized by Valentin,¹ who believed that the tool possessed shallow academic pedigree; he proposed his own brand of situation analysis, the “defensive and offensive evaluation approach.” He concluded, however, that the findings derived using his methodology could easily fall under familiar SWOT rubrics.² Despite this criticism, the SWOT approach has been used extensively in a number of conservation projects and programs such as those in Sri Lanka,³ in the US,⁴ in Indonesia,⁵ in South Africa,⁶ in the United Kingdom,⁷ and in the Philippines.⁸ Helms, in her study of SWOT use, observed that its use was pervasive in academic-peer reviewed journals and equally popular for its simplicity in developmental and results-oriented strategic planning activities.⁹

Nine NIPAS sites were chosen for this research on the basis of their distinctive contribution or potential to biodiversity conservation and ecotourism. Primary data were gathered from interviews of PASUs and important stakeholders such as DENR regional officials,

¹ Valentin, E. (2005). *Away with SWOT Analysis: Use Defensive/Offensive Evaluation Instead*. The Journal of Applied Business Research- Spring 2005, Volume 21, Number 2, pp. 91-105.

² Ibid. p. 99

³ Wintle, S., International Union for Conservation of Nature Communications Strategy. (2006, Sept 14). *Global Forest Governance Project: Strengthening Voices for Better Choices*. Retrieved from <http://cmsdata.iucn.org/>.

⁴ Colorado Division of Parks & Wildlife. (2011, Oct 11). *Public Information, Marketing, Branding, Website and Outreach Work Group Report*. Retrieved from <http://dnr.state.co.us/>.

⁵ McKelson, J. (2008). *Indonesian Conservation Management Practices & The Australian Zoo Industry*. International Specialised Skills Institute, Melbourne. Retrieved from <http://www.issinstitute.org.au/>.

⁶ Shikolokolo, H. (2010). *An Evaluation of the Impact of Kruger National Park's Development Programme on the Hlanganani Community in the Limpopo Province*. Retrieved from <http://ul.netd.ac.za/>.

⁷ North Devon Council. (2013, Feb 11). *Ramsan Conservation Area management plan*. Retrieved from <http://www.northdevon.gov.uk/>.

⁸ Agbayani, C. (2011). *A City within a forest: A Sustainable Forest management strategy for Puerto Princesa*. unpublished Management Research report, AIM.

⁹ Helms, M., Nixon, J. (2010). *Exploring SWOT analysis – where are we now?: A review of academic research from the last decade*. Journal of Strategy and Management. Vol. 3 Issue 3. pp.215 – 251.

community residents, and leaders. Management teaching cases were written based on these interviews. These sites or case leads were recommended by key DENR officials and cross-checked by the AIM research team from secondary sources.

1.1 Legal Framework

The management of protected areas (PAs) in the Philippines is governed by a number of enabling national laws. Republic Act (RA) 7586 or the National Integrated Protected Areas System (NIPAS) Act of 1992 provided for the establishment and management of a comprehensive integrated system of protected areas to “maintain essential ecological processes and life-support systems to preserve genetic diversity, to ensure sustainable use of resources therein, and to maintain their natural conditions to the greater extent possible” for present and future generation of Filipinos. The Fisheries Code (RA 8550) of 1998 and the Wildlife Resource Conservation Act of 2001 (RA 9147) similarly aimed to ensure the sustainable development and management of the country’s natural resources.

The Philippines is party to various international covenants. These bind the government to comply with certain aims and provisions. The Convention on Biological Diversity (CBD) of 1992 provided for the establishment of protected areas where “special measures are to be taken to conserve biological diversity and the protection of ecosystems, natural habitats and maintenance of viable populations of species in natural surroundings.” The Convention on Wetlands of International Importance (Ramsar Convention) of 1971 aimed to stem the loss of wetlands worldwide especially those important for migratory fowls (e.g. Olango Island Wildlife Sanctuary, Tubbataha Reefs Natural Park). The World Heritage Convention (Convention Concerning the Protection of World Cultural and Natural Heritage) of 1992 obliged the government to “identify, protect, conserve, and transmit to the future generation its unique cultural and natural heritage.” (the Tubbataha Reefs and Puerto Princesa Subterranean River Natural Park were inscribed in the World Heritage List, among others)

Many of the designated protected areas are the ancestral domains of numerous indigenous cultural communities (ICCs). Their right to the sustainable use and management of their ancestral domains are provided for in the Indigenous Peoples Rights Act of 1992. The Local Government Code of 1991 (RA 7160) gave the local governments greater authority in the

management of protected areas through their representation in the Protected Area Management Board (PAMB).

Different laws protecting the environment exist and give the impression of robustness in environmental protection in the country, but a Silliman University study found that many provisions in the different laws contradict each other. As a result, the implementation of protection measures end up as ineffective.¹⁰

1.2 Status of PA establishment

The NIPAS Act identified 202 initial components of the System that comprised 2.57 million hectares of terrestrial and marine areas.¹¹ 112 initial components that encompassed 3.54 million hectares have been formally included in the System (Table 1). Thirteen or about 12% of the sites were covered by specific laws.¹²

Table 1. Status of the establishment and management of national protected areas in the Philippines (as of October 31, 2011)		
	Number of Protected Areas	Area (million hectares)
Initial components*	202	2.57
Formally under the NIPAS**	112	3.54
▪ Marine PA	29	0.84
▪ Terrestrial PA	83	2.7
▪ With specific laws	13	
With Protected Area Mgt Board (PAMB)	178	
With established Integrated Protected Area Fund (IPAF)	149	
▪ With active IPAF collection and utilization	95	
	Amount in Pesos	
▪ Total IPAF		213,771,881.78
▪ Total disbursed		130,140,564.54

*Proclaimed prior to the NIPAS Act of 1992

**Seventy of the 112 are initial components.

Source: DENR-PAWB, *Establishment and Management of National PAs* (<http://www.pawb.gov.ph>)

¹⁰ Department of Environment and Natural Resources-Protected Areas and Wildlife Bureau, Deutsche Gesellschaft für Internationale Zusammenarbeit, Silliman University. (2011, August 31). *An In-Depth Review of the NIPAS Law and Related Statutes on the Establishment and Management of Protected Areas in the Philippines*. Retrieved from <http://www.enrdph.org>.

¹¹ The initial components or areas declared protected prior to the law. These still need to be assessed if they are suited for inclusion into the System.

¹² Hinulugang Taktak National Park (RA 6964), Sagay Marine Reserve Law 2001 (RA 9106), Northern Sierra Madre Natural Park Act 2001 (RA 9125), Mt. Kanlaon Natural Park Act 2001 (RA 9154), Mt Apo Protected Area Act 2003 (RA 9237), Mt Hamuigitan Range Wildlife Sanctuary Act 2004 (RA 9303), Mt. Kitanglad Range Protected Area 2000 (RA 8978), Batanes Protected Area Act 2000 (RA 8991), Mt. Malingdang Range Natural Park Act 2004 (RA 9304), Central Cebu Protected Landscape Act 2007 (RA 9486), Mimbilisan Protected Landscape Act 2007 (RA 9494), Mt. Banahaw and San Cristobal Protected Landscape (RA 9847), Tubbataha Reefs Natural Park Act 2009 (RA 10067). Retrieved from <http://www.pawb.gov.ph>

1.3 Management

The NIPAS Act gave the Department of Environment and Natural Resources (DENR) the authority over all nationally declared protected areas (PAs). The agency is mandated to classify and administer “all designated protected areas and prepare site-specific general management planning strategy (GMPS) that serves as guide for PA management. Preparing GMPS requires inputs from national government agencies (NGAs), non- government organizations (NGOs) in the area and local communities hosting the site. The Protected Areas and Wildlife Bureau (PAWB) is the unit within the DENR that is tasked with formulating policies and guidelines for the ‘establishment and management of an Integrated Protected Area System’ (Executive Order 192, 1987).

Shared governance: The PAMB. The NIPAS Act provided for the creation of a Protected Area Management Board or PAMB to oversee the management of each site. The PAMB is the sole policy-making and permit-granting body for the PA. It decides on allocation of funds and all issues regarding management of the PA. The PAMB convenes at least once per quarter each year.

The composition of the PAMB exemplifies shared governance by the national government (through the DENR Regional or Provincial Director, under whose jurisdiction the PA falls who chairs the PAMB, and other relevant national agencies), local government units or LGUs (through the Governor, City or Municipal Mayor), the host communities (through elected officials, peoples’ organization, indigenous cultural communities where applicable), and other civil society groups (NGOs, academe, etc.) working in the site.

The quality of participation and engagement of various members of the PAMB varies from site to site. In some sites such as the Tubbataha Reefs Natural Park (TRNP) and the Puerto Princesa Subterranean River National Park (PPSRNP) both located at Palawan, the LGU heads (the Governor and City Mayor, respectively) played lead and active roles by investing significant resources in the management of the sites and personally chairing PAMB meetings most of the time.¹³¹⁴ There was also strong involvement of international conservation groups (Conservation

¹³ Bagadion, B., Soriano, E., & Mendoza, G. (2010). *Preserving Tubbataha Reefs Natural Park*. Makati: Asian Institute of Management.

¹⁴ Bagadion, B., Soriano, E., & Mendoza, G. (2011). *Puerto Princesa Subterranean River National Park*. Makati: Asian Institute of Management.

International (CI), World Wildlife Fund (WWF), UNESCO World Heritage Center). These factors effectively brought in the much-needed technical and financial support. They were also supported by national and local agencies of government, community leaders and members, and local NGOs at both sites. Meanwhile, at the Apo Island Protected Landscape and Seascape (AIPLS) at Dauin, Negros Oriental, the presence of Silliman University in the PAMB played a pivotal role in ensuring that necessary and appropriate technical and policy measures in the management of the PA were in place. Linkages with international and local donor community were also established.¹⁵ The university also served the role of facilitator and mediator in resolving stakeholder conflicts. The PAMB of the Rajah Sikatuna Protected Landscape (RSPL), on the other hand, which included seven mayors and 29 barangay captains in central Bohol province, lacked the active engagement of key stakeholders demonstrated in the three aforementioned PAs.¹⁶

PA Management Office (PAO)/Park Superintendent (PaSu). The NIPAS Act also provided for the on-site establishment of a PA Management Office (PAO) which is headed by a Protected Area Superintendent or PaSu who oversees day-to-day management of the PA. The PaSu reports directly to the Provincial Environment and Natural Resources Officer (PENRO) and the PAMB. In general, the PaSu is a senior staff of the DENR seconded to the PAO. For some PAs such as Tubbataha Reefs Natural Park and the Puerto Princesa Subterranean River Natural Park, the PaSUs were recruited at large, and their salaries paid for by the LGU with jurisdiction over the site. The PaSu is supported by technical and administrative staff recruited by the PAMB on contract basis; their number dependent on the availability of funds.

Depending on the competencies, motivations, and personality of the PaSu, the post holder can play a critical role in the effectiveness of the PAMB. In Mt. Kitanglad Nature Range in Bukidnon, Northern Mindanao, reportedly one of the best-managed PAs in the country, the PaSu (circa 2008) was instrumental in engaging the Mayors and Governor of the LGUs hosting the site. He managed to integrate PA planning and management to the LGU development plans and budget.¹⁷

¹⁵ Bagadion, B., Soriano, E., (2010). *Apo Island Protected Landscape and Seascape*. unpublished management cases. AIM-CDM.

¹⁶ Bagadion, B., Soriano, E., (2010). *Rajah Sikatuna Protected Landscape*. unpublished management cases. AIM-CDM.

¹⁷ La Viña, A., Kho, J. & Caleda, M. (2008) *Legal Framework for Protected Areas in the Philippines*. Retrieved from <http://cmsdata.iucn.org/>.

1.4 Financing mechanism

The Integrated Protected Area Fund (IPAF). The NIPAS Act provided for the creation of the IPAF to finance the projects of the System. The law allows PAs to *solicit, receive donations, endowments, and grants* in the form of contributions that will form part of the IPAF (sec 16, NIPAS Act).

All incomes generated from the operation of the PAs will accrue to the IPAF and deposited in national treasury accounts as trust fund and maintained by the DENR. Income sources include: (i) taxes for the permitted sale and export of flora, fauna, and other resources; (ii) proceeds from the lease of multiple use areas, including tourism concessions; (iii) contributions from industries and facilities directly benefiting from the PA; (iv) fines and fees, including PA entry fees collected and derived from the operation of the PA; (v) contributions, donations, endowments and grants from any source; and (vi) such other revenues as may be derived from the operation of the PA.¹⁸ Seventy-five percent (75%) of the IPAF is deposited to the PA Sub-Fund for the use of the PA generating the fund and 25% to a PA Central Fund for use of non-income generating PAs and the IPAF Governing Board. The IPAF is disbursed solely for the development, maintenance, and operation of the PA and duly approved projects endorsed by the PAMB in the amounts authorized by the DENR.¹⁹

Of the 202 PAs in 2011, only 95 or nearly 47% had active IPAF collection with a total of Php213,771,881.78 (Table 1). Of the IPA- generating PAs, 15 were able to collect over a million pesos as of 2008 (Appendix 1).

User fees and other income sources. The bulk of the IPAF collection was generated from visitor entrance fees that varied from site to site, ranging from as low as Php20 to as high as Php3,000 (Table 2). User fees were charged for various recreational activities such as snorkeling, scuba diving, bird watching, and camping. Service fees were charged for guiding, accommodation, transport, equipment rental. Sale of merchandise (e.g. souvenir items, crafts) and donations from visitors also contributed to revenue generation for some PAs.

¹⁸ DENR Department Administrative Order 1992-25. *NIPAS Implementing Rules and Regulations*. Retrieved from <http://www.pawb.gov.ph>

¹⁹ DENR Department Administrative Order 2005-21. *Revised Guidelines on the Establishment and Management of the Integrated Protected Area Fund*. sec 3.

The entrance and other user fees are generally set by the regional offices of the DENR in consultation with stakeholders. These fees are usually very low: Php20 in the Central Visayas Region, for example. But in some sites such as the Tubbataha Reefs, its user fee rates were based on willingness-to-pay surveys. The year 2000 survey result showed that Tubbataha visitors, mainly divers, were willing to pay an average entry fee of US\$ 41 per visitor. This became the basis for the fee structure. The entry fee has since increased to Php3,000 or about US\$ 71 in 2010.²⁰

Challenges

2.1 Prioritizing conservation efforts

The Philippines' "4th National Report to the Convention on Biological Diversity: Assessing Progress Towards the 2010 Biodiversity Target," declared that only 50 of the country's scientifically-identified 128 key biodiversity areas (KBAs), including five of ten sites in the list of the Alliance for Zero Extinction (AZE) which represented the last refuge of highly-threatened species, benefited from official safeguard status.²¹ This left 60% of KBAs without formal protection and corollary, and put into question the validity of the inclusion of a significant number of PAs in the NIPAS list. There are ongoing efforts by the DENR and conservation groups to reconcile the gap and prioritize where resources and conservation efforts should be focused on. In 2011, the DENR, with support from various donors, launched the "*New Conservation Areas in the Philippines Program (New-CAPP)*," expanding the PA system to include 400,000 hectares more of KBAs under various management regimes.²²

2.2 Assessing management effectiveness

Since the NIPAS Act was enforced in 1992, there has not yet been a systematic assessment of how well the country's PAs were managed along with any relevant impacts.²³

²⁰ Bagadion, B., Soriano, E., & Mendoza, G. (2010). *Preserving Tubbataha Reefs Natural Park*. Makati: Asian Institute of Management.

²¹ In 2004, Conservation International in collaboration with Haribon Foundation initiated a two-year process of identifying conservation targets for the Philippines, building upon and refining the results of a number of earlier priority setting activities. 128 sites were identified as key biodiversity areas for threatened amphibians, mammals, birds, and freshwater fish. Ten of the sites are included in the list of the Alliance for Zero Extinction (AZE).

²² DENR, UNDP-GEF. 2011. *Annual Report New Conservation Areas in the Philippines Program*. Retrieved from <http://www.undp.org/>.

²³ Bagadion, B., Soriano, E., & Mendoza, G. (2010). *Preserving Tubbataha Reefs Natural Park*. Makati: Asian Institute of Management.

However, a few specific sites, particularly marine protected areas (MPAs), have been part of international efforts to assess PA management effectiveness. In 2002, the Tubbataha Reefs Natural Park was among 20 MPAs worldwide that tested the applicability of a set of indicators identified and formulated by the IUCN-World Commission on Protected Areas (WCPA), World Wildlife Fund (WWF), and the United States' National Oceanic and Atmospheric Administration (NOAA) to measure the attainment of three aspects of the objectives of MPAs—*bio-physical*, *socio-economic*, and *governance*. Financed by donors, the TRNP assessments were carried out in 2002, 2006, and 2009. After the project ended, TRNP PAO delimited the indicators to be monitored, particularly bio-physical, because the cost of regular monitoring was costly especially without donor support.

Aside from the cost, the absence of baseline data and gaps in available data constrained the majority of the PAs from undertaking regular assessment of their progress and impacts.²⁴

2.3 Sustainability of financing

Perennial funding crunch. Considering that only 47% of PAs in the country contributed to the IPAF (Table 1), this left the majority dependent on government subsidy, meager allocations from the DENR, and LGU budgets, which in 2006 ranged from \$3,000 to \$18,000 per year per site.²⁵ Such amount is barely able to finance maintenance operations of a PA.²⁶ Three successive DENR reports underscored the inadequacy of funding in protected areas.²⁷ Alcala pointed out that financing was a necessary condition for effective implementation of conservation programs.²⁸

In a 2010 management case research study of five PAs undertaken by the Center for Development Management of the Asian Institute of Management, only two (Apo Island and Puerto Princesa Subterranean River) of the five sites featured were self-financed mainly from

²⁴ The Director of the DENR-Protected Areas and Wildlife Bureau in the 2012 unpublished report, "Communities in Nature: State of Protected Area Management in the Philippines," admitted to the "lack of systematic data on the impact of the PA management system, on whether there is improvement in bio-physical condition of PAs, quality of life of communities or increased benefits to the country." Retrieved from <http://newsinfo.inquirer.net>

²⁵ Anda, A. Jr. (2006). *An Institutional Assessment of the Integrated Protected Area Fund (IPAF) in the Philippines*. p. 8.

²⁶ In 2011, the ten thousand-plus hectare Rajah Sikatuna Protected Landscape relied mainly on the budget of the provincial office of the DENR in Bohol. The DENR budget support was only able to cover the Php3,000 monthly allowance of three contractual staff which was inclusive of their travel and other monitoring costs (Bagadion, B., Soriano E. (2011). *The Rajah Sikatuna Protected Landscape*, unpublished management cases, AIM-CDM).

²⁷ Department of Environment and Natural Resources. (2012). *Barriers to effective protected area management in the Philippines*. (Quezon City, Metro Manila, Philippines: DENR).

²⁸ Alcala, A. (1998). *Community based resource management: a case study*. Ocean and Coastal Management 13, pp. 17-186.

revenues generated from tourism activities (Table 2). On the other extreme end were Rajah Sikatuna Protected Landscape and Olango Island Wildlife Sanctuary (OIWS). Both PAs continually faced severe funding crunch, constraining their PAMBs' ability to implement the necessary protection measures. In the OIWS, a refueling station of migratory birds, there were only three staff responsible for protecting over a thousand hectares of mangrove and marine areas, on top of guiding visitors and maintaining the tourism facility.²⁹ Similarly, 10,000-plus hectare Rajah Sikatuna Protected Landscape shared its Park Superintendent and lone forest guard with four other nearby PAs. Severely undermanned and ill-equipped, their PAMBs' ability to enforce protection measures was severely constrained along with their capacity to promote tourism activities or create income streams. Such was the situation of the majority of PAs in the country.

Constraints of financing from tourism receipts. The potential of PAs to pay for itself via tourism revenues was demonstrated by the Apo Island Protected Landscape and the Puerto Princesa Subterranean River as reflected in Table 2. Their performances, however, were exceptions rather than the rule.

A number of factors affected the ability of PAs to generate revenues from tourism as evidenced from the AIM case studies of five PAs. The first was the quality of the product and services. The Apo Island Protected Landscape and the Puerto Princesa Subterranean River offer beautiful scenery and diversified recreational activities, are accessible and fairly well managed as conservation and tourist sites. The second involved the seasonality of the product. Tubbataha shares the same product quality attributes as Apo Island and the Subterranean River. One could argue that Tubbataha offered more than the two, but despite the former's superior product (as dive destination) it has was not able to match the revenues from tourism generated by the latter because of the seasonality of its main product, scuba diving. Scuba diving in Tubbataha was feasible only for 12 weeks, when the sea was calm. On the other hand, Apo Island was available as a diving destination all year round. The third was the availability of tourism infrastructure (access road, toilet, water supply, waste management, visitor facility, etc.), which was sorely lacking in Rajah Sikatuna, and presumably was also the case with the majority of the country's PAs. Fourth involved human resource capacity. Although very accessible to major tourist

²⁹ Bagadion, B., Soriano, E., & Mendoza, G. (2011). *Olango Island Wildlife Sanctuary*. Makati: Asian Institute of Management.

destinations in Bohol, Rajah Sikatuna did not benefit from this advantage because of the lack of human resource capacity to plan, strategize and mobilize its stakeholders for revenue generation.

The country can harness the potential of PAs for tourism as a strategy for financial sustainability, but it should seriously address the above factors first.

Table 2. Profile of Select Protected Areas in the AIM Management Case Study, 2010

Indicators/ Variables	Protected Areas				
	Tubbataha Reefs Natural Park (TRNP) (Palawan)	Puerto Princesa Subterranean River National Park (PPSRNP) (Palawan)	Apo Island Protected Landscape & Seascape (AIPLS) (Negros Or.)	Olango Island Wildlife Sanctuary (OIWS) (Cebu)	Rajah Sikatuna Protected Landscape (RSPL) (Bohol)
Area (hectares)	97,030	22,209	681	1,030	10,452
Number of in-situ staff*	13	60	50	4	3
Ratio of staff to area (in hectares)	1:7,436	1:370	1:14	1:257	1:3,484
Main tourist activities	Diving	River/ cave tour	Diving, snorkeling	Bird watching	Bird watching, camping
Year started charging user fees	2000	1993	1999	1996	1999
Visitor entry fee **	Php3,000	Php275	Php100 (entrance) Php300 (diving)	Php20 (local); Php100 (foreign)	Php20 (local); Php100 (foreign)
Annual receipts from tourism ***	Php4.4 M	Php16.5 M	Php3.9M	Php0.163 M	Php0.207M
Tourism receipts as % of total budget	37%	139%	≈100%****	39%	50%
Annual budget (2010)	Php14 M	Php11.8M	≤ Php3.9M****	Php0.41	Php0.407

*Number excludes the Park Superintendent. PaSu holds office in PENRO;

** Other user fees were charged; prices as of 2010

***TRNP received about Php6.5. M from grants and payment of staff salaries, services and in-kind contributions from the Provincial Government of Palawan, the Philippine Navy, and Philippine Coast Guard on top of its receipts from tourism. The amounts for Apo Island, Olango and Rajah Sikatuna reflect the 75% share of the protected area from the IPAF with the 25% remitted to the National Treasury.

****The actual budget for AIPLS was unavailable at the time of research.

Decreasing contributions from traditional sources. In the 1990s, grants from multilateral donors such as the European Union, UNDP, WB, and ADB- plus bilateral sources and budgetary allocation from the national government- were the major funding sources for the NIPAS, for the development of the GMPS, along with establishment and strengthening of PAMBs of some priority protected areas in the System. Through the years, however,

international funding from these sources declined due to growing competition from new concerns and new areas hence the necessity of observing and possibly creating new sources or mechanisms. Funding from the government has grown scarce as well.

2.4 Human resource capacity

The job of a PaSu is multi-faceted. He/she is expected to be technically competent in PA management, facilitate stakeholder consultations, steer the workings of the PAMB, mediate and resolve conflicts, mobilize external resources, deal with politicians and other interest groups, among others.³⁰ He/she was required to do multi-tasks and be multi-skilled, which some PaSus acknowledged they were not. The PaSu of Rajah Sikatuna Protected Landscape admitted to his lack of skill in developing project proposals to generate income for the PA or why despite the PA's accessibility to major tourism destinations in Bohol, the PAMB was unable to seize the opportunity.³¹ Moreover, the PaSu was ambivalent about promoting tourism, as he was wary that conservation objectives would be compromised. As a result, he was lukewarm to initiating measures that could increase tourism revenues.³² Dealing with conflicts within the PAMB, especially when strong personalities and vested interests were involved, was another aspect of their work that some PaSus felt inadequate.³³

In addition to the gaps in skills, their workload and the inadequacy of resources at their disposal constrained their efficiency and effectiveness. The PaSu for Raja Sikatuna is the PaSu for a cluster of five other PAs that encompassed nearly 40,000 hectares, with support of one patrol guard, one technical staff, and one administrative staff only. The Olango Island Wildlife Sanctuary faced a similar situation. Taking on the additional load of generating revenues from ecotourism would be tantamount to a PaSu shooting himself on the foot, given the workload he has to contend with.

³⁰ Bagadion, B., Soriano, E., (2010). *The Apo Island Protected Landscape and Seascape*. unpublished management cases, AIM-CDM.

³¹ Bagadion, B., Soriano, E., (2010). *Rajah Sikatuna Protected Landscape*. unpublished management cases, AIM-CDM.

³² In the Apo Island Protected Landscape and Seascape as well as the Puerto Princesa Subterranean River, the PaSus were wary of the sites' growing popularity in the mass tourism market. Despite the two sites being zoned, the tours guided, and rules well-disseminated, harm was still done as long as snorkelers stepped on corals and prohibited wildlife forcibly collected, among others.

³³ Bagadion, B., Soriano, E., (2010). *The Apo Island Protected Landscape and Seascape*. unpublished management cases, AIM-CDM.

Opportunities

3.1 Public-private partnerships for conservation financing and capacity building

There is growing private sector interest for greater involvement in conservation that can be harnessed for PA management. Most recently, on August 2012, the DENR and the Energy Development Corporation (EDC) formed a conservation partnership agreement for the latter to provide funds for the protection of threatened species in its geothermal sites in various parts of the country.³⁴ In 2007, Conservation International and Toyota Philippines formed a partnership to support government efforts to restore and protect the 4000-acre Peñablanca Protected Landscape and Seascape in Cagayan province in northern Philippines.³⁵ In 2006, the country's biggest renewable energy company, First Gen Corporation, formed a partnership with Conservation International-Philippines, First Philippine Conservation Foundation, and the DENR to conserve and protect the Verde Island Passage, dubbed by scientists as the 'center of the center' of marine shorefish diversity in the world.³⁶

After the devastation wrought by Typhoon *Ondoy* in 2009 on residents of Metro Manila and surrounding areas, a number of private corporations, LGUs around the Marikina watershed, national government agencies, local communities, and other civil society organizations were involved in the protection of Marikina's watershed. With natural disasters getting more frequent and increasing in intensity due to the reality of climate change, more private businesses have committed to corporate social responsibility in order to engage the government and other stakeholders.

Other than financing, the entrepreneurial development and management expertise from the private corporate sector and educational institutions such as the AIM should be tapped to fill in the gap in human resource capacity of PaSus.

3.2 Growing tourism industry and prospects for PAs

Tourist arrival in the country from January to August 2012 reached 2.856 million, a 9.78% growth over last year. Government planners project a year-on-year increase of 1.5 million

³⁴ DENR-PAWB. (2012). *DENR and Energy Development Corporation inked conservation partnership*. Retrieved from <http://www.pawb.gov.ph/>.

³⁵ Vocus. (2007). *Conservation International Announces Partnership with Toyota to Protect Philippines' Rainforest*. Retrieved from <http://www.prweb.com/>.

³⁶ The Verde Island Passage Corridor occupies more than 1.14 million hectares between the provinces of Batangas, Oriental Mindoro, Marinduque and Romblon. More than half the Philippines' documented fish species as well as many globally threatened species can be found here. Retrieved from <http://www.conservation.org/>.

tourist arrival in the coming years.³⁷ The government's current infrastructure spending—new airports, upgrading and expanding existing ones in key tourism destinations- is geared towards a target number of tourist arrivals.

PA managers should seize the opportunity to capture a chunk of the market not only to increase revenues, but also to engage tourism industry stakeholders to help promote PA conservation. Joint public-private sector conservation activities, such as mangrove planting, bird inventory, cleanups, and public awareness-raising programs are some initiatives that can harness volunteerism and be incorporated in tourism product packages. In December 2010, an association of tour operators and hotel and restaurant owners in Cebu, a major tourist destination in the country in partnership with community groups in Olango Island launched the *Olango Bird and Village Tour* project.³⁸ The private sector initiative recognized the opportunity in the growing market demand for nature and “local people interaction” type of tour product, especially in Europe.

3.3 Bio-prospecting and bio-technology for PA financing

Conus magus is a fish hunting cone snail commonly found in Philippine waters and routinely sold in local markets. Dr. Baldomero Olivera Jr., a US based Filipino-American chemist was credited for the discovery of a unique peptide sourced from the venom of the cone snail and whose synthetic form is used in the manufacture of *Prialt*, a drug approved by the USDA in 2004 to bring relief to people in chronic pain.³⁹ As one of the mega-biodiversity countries in the world, the potential of the country's flora and fauna for biotechnology development, as shown by the cone snail, is enormous and should be tapped for long-term PA financing.

³⁷ President Benigno S. Aquino, (2012 July 23), “Third State of the Nation Address,” Retrieved from <http://www.president.gov.ph/>

³⁸ During the project launch, the tour operators pledged to market the product; the regional office of the Department of Tourism, the provision of financial and capacity building of the various community groups, e.g. tricycle driver association, barangay LGUs hosting the PA, the community organization that managed the original community-based tourism project in Olango Island in the '90s; the barangay LGUs, the cleanliness of the barangays and the enforcement of PA protection laws (Bagadion, B., Soriano, E., & Mendoza, G. (2011). *Olango Island Wildlife Sanctuary*. Makati: Asian Institute of Management).

³⁹ National Institute of General Medical Sciences. (1996). *Biographical Sketch: Dr. Baldomero Olivera Jr.* Retrieved from <http://www.nigms.nih.gov/>.

3.4 Non-traditional financing mechanisms

In recent years, there has been promising initiatives in creating alternative financing mechanisms for PA conservation in the country with support from various international conservation groups. Among these mechanisms are:

‘Cause related marketing’⁴⁰ Tubbataha Reefs has been a recipient of funds generated from ‘cause related marketing’ schemes initiated in collaboration with its international partners (e.g. UNESCO World Heritage Center, World Wildlife Fund, and Conservation International). In 2012, Oris, the Swiss maker of dive watches created 2000 pieces of the Oris Tubbataha Limited Edition, and pledged to donate a percentage of the sales for Tubbataha Reefs’ conservation.⁴¹ Much earlier, in 2009, Tubbataha benefited from an auction organized by another Swiss watch company, Jaeger-Le Coultre, through a partnership agreement with the UNESCO World Heritage Center and the International Tribune.⁴²

Carbon offset. Cebu Pacific Airline’s *Bright Skies for Every Juan* program was initiated in 2008 in partnership with WWF-Philippines. It enjoined passengers who booked with the airline to make a donation for the conservation of the country’s reefs. It was a cause-oriented marketing that was packaged as a carbon-offsetting scheme. The Tubbataha and the Apo Island Reefs were recipients of the funds generated from the program.

Other non-traditional sources. Since 2009, the Tubbataha Reefs was a recipient of funds raised through The Global Mala Project, a worldwide yoga event dedicated to positive change.⁴³

The above examples of creative funding mechanisms should be shared widely with PA managers to generate more ideas and initiate similar actions.

⁴⁰ Cause- related marketing is undertaken when a company links with and donates to a non-profit organization as part of a program to promote the company’s products or services by associating the company with the activities of the non-profit organization. (Font, X., Cochrane, J., & Tapper, R. (2004). *Pay per Nature View, Understanding Tourism Revenues for effective management plans*. a report prepared for the World Wildlife Fund).

⁴¹ Oris Press release. (March 2002). *An Underwater Sanctuary: Introducing the Oris Tubbataha Limited Edition*. Retrieved from <http://www.topperjewelers.com>.

⁴² UNESCO. (2009). *Tubbataha Reef Marine Park in the Philippines receives £13,540 from an auction organized by Jaeger LeCoultre*. Retrieved from <http://whc.unesco.org/>.

⁴³ Tubbataha Management Office. (2012). *Global Mala Donates 225K to Tubbataha Reefs*. Retrieved from <http://www.tubbatahareef.org>.

Conclusions and Ways Forward

Two decades after the enactment of the NIPAS Act, serious challenges in the management of protected areas in the country still remain. The perennial lack of funds to support the manpower and logistics necessary to implement protection and conservation measures is further compounded by limitations in human resource capacity of protected area management to generate income outside of government subsidy. These factors cast serious doubt on the effectiveness of the country's management of its protected areas.

The successful experiences of a few PAs such as Apo Island, Puerto Princesa Subterranean River, and Tubbataha Reefs to finance themselves because of the creative mechanisms they employed are instructive and should be shared with other PAMBs. The opportunities presented as a result of engaging the private sector for financing and managing PAs are enormous and should be seized. There is also the potential of tapping into our mega-diverse biological resources for bio-technology to finance PA conservation.

While financial sustainability is an important variable in the effective management of protected areas, there is also a need to further study the effectivity of the PAMBI as a governance unit. A supplemental study should also be undertaken to determine what additional skills PaSus need beyond technical expertise in order to effectively manage protected areas.

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