

# Potentials of Conservation Financing in Planning for Areas with High Biodiversity Value in the Philippines

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## Abstract

Many of the areas with high biodiversity value in the country are formally safeguarded by virtue of either the National Integrated Protected Area System (NIPAS Act) or the Local Government Code and/or the Fisheries Code. Financial sustainability of managing a protected area (PA) is one of the major barriers to its effective planning and management. This paper identified four major types of mechanisms that will create a sustainable source of revenue for the effective planning and management of a PA: user fee system, public-private partnership, payments for ecosystem services, and the community enterprise development mechanism. Except for the user fee system however, these mechanisms are not widely used by park managers, mainly because of its painstaking planning and management requirements. Extensive documentation, exhaustive evaluation as to its effectivity and efficiency, and wider dissemination of the application of these mechanisms are thereby recommended. Policy support in terms of start-up funds for PAs, incentive systems for conservation stakeholders, and implementation guidelines that will encourage and guide PA management to establish a sustainable conservation finance mechanism, are also in order. In addition, professionalizing PA or park management and a continuous capacity building on PA/park management and conservation finance are likewise suggested.

**Keywords:** conservation financing, protected areas planning and management, user fee system, public-private partnership, payment for ecosystem services, community enterprise development.

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## **Introduction**

One of the most cited challenges in planning and managing areas with high biodiversity value in the Philippines is the little financial support the resource managers receive to sustain the management of protected areas (PAs). The purpose of conservation financing is to create revenue that can play an important role in ensuring effective planning and management of areas with high biodiversity value, sometimes in perpetuity.

### **Key Biodiversity and Protected Areas in the Country**

In the Philippines, a total of 128 key biodiversity areas (KBAs), in approximately six million hectares, were identified by the Biodiversity Management Bureau (BMB, formerly the Parks and Wildlife Bureau) of the Department of Environment and Natural Resources (DENR), and by two major environmental NGOs namely Conservation International and Haribon Foundation. KBAs were identified to refer to the areas with high biodiversity value.

Initially, only 35 percent of these (45 out of 128) KBAs were formally safeguarded under the legal framework of the National Integrated Protected Area System (NIPAS Act, also known as RA 7586 passed in June 1992). The NIPAS Act was enacted following the 1987 Philippine Constitution which aimed to enhance the administration of protected areas. This current system of national parks and protected areas in the country has its basis formed from the Philippine Commission Act No. 648 enacted in 1903 by the US Congress which authorized the Civil Governor to reserve for civil public purposes, and from sale or settlement, any part of the public domain not appropriated by law for special public purposes (OMICS International 2014). That was the first known policy on protected areas as it was further strengthened by the passing of acts and legislations including the Revised Forestry Code of 1975 (Presidential Decree No. 705) and the Forest Administrative Order No. 7 in the succeeding decades. Today, there is a total of 240 protected areas under the protected area (PA) system of NIPAS, covering 5.4 million hectares, of which however only thirteen have Congressional enactments.

Pursuant to the NIPAS act, the PA system management is lodged under the BMB while the management of specific PAs is tasked to its respective Protected Area Management Board (PAMB), a multisectoral body created for the administration and management of a protected area. Every PAMB decides on budget allocation, approval of funding proposals, and planning on matters concerning the environmental management of its respective PA.

The PAs are funded in conjunction with the regular annual budget cycle of the government through the integrated protected area fund (IPAF) which has the prime purpose of financing projects and operations of the PA system as required by the NIPAS Act. The guidelines on the establishment and management of the IPAF was issued in 1996 (DENR Administrative Order 96-22). However, the Fund was still expected to be sourced from local revenues, by banking on the “users” of PAs<sup>1</sup> to serve as the main sources.

Though majority (around 61 percent) of the KBAs in the PA system are terrestrial, there are also 1,800 listed marine protected areas (MPAs) in the country (Cabral et al. 2014) as of July 2014, which are categorized either as nationally-managed (i.e., as part of the NIPAS), and locally managed MPAs. The locally managed MPAs are established through local ordinances as they were located within “municipal waters” created by virtue of the Local Government Code (RA 7160) and the Fisheries Code of 1998 (RA 8550). The very first municipal marine reserve was established in Sumilon Island, Cebu, in 1974 (Cabral et al. 2014) popularly known as the grandfather of Philippine MPAs that which eventually served as basis for the establishment of other MPAs including the Apo Island Reserve, one of the most successfully managed MPAs in the country.

### **Financing the Protected Areas**

In an earlier appraisal<sup>2</sup> of the IPAF, it was observed that twelve years after its implementation, only twelve of the sixty-eight protected areas that earned IPAF revenues have managed to secure the release of its IPAF fund and not one of the 140 non-earning protected areas has obtained financial support from the central IPAF (Anda 2006). Recently, it was calculated that since its implementation in 1996, the total IPAF collection amounted to PhP 198 million (approximately US\$ 4,604,652), as of December 2010. This was generated from a total of 100 protected areas, with the top 15 PAs contributing as much as 89 percent of this amount.

An assessment of the Philippine PA system in 2014 identified financial sustainability of managing PAs as one of the major barriers to its effective management (cited by REECS in its Final Report: Sustainable Financing of PAs Project, 2014). The same report found out that since the establishment of NIPAS Act and the DAO 2001-51, only 149 (62 percent) of the 240 PAs have established their PA sub-funds. Out of these 149 PAs with established sub-funds, only thirty PAs (20 percent) have been able to access their sub-funds. Financial sustainability in this regard must include adequate systems for financial planning, budgetary management, and revenue generation.

“A common problem faced by park area managers is a perennial funding crunch,” Bagadion and Soriano (2013) related in a paper and noted that “some NIPAS areas showed success in surmounting this funding obstacle by exploiting the ecotourism potential of their location.” They also emphasized 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.

Currently, the IPAF draws its income from fines, entrance fees, donations, concessions and leases (in multiple use zones), and taxes on permitted sales and exports of flora and fauna. Given the current funding levels, however, and the number of PAs requiring support, REECS (2014) concluded that “there is obviously a huge funding gap in supporting the management of PAs in the Philippines.” This gap is expected to increase as more PAs become part of the system.

Most PAs are financed entirely out of government revenues, and systems to capitalize on alternative revenue streams (i.e., from ecotourism or ecosystem services) remain limited. While there are a number of examples, there is no extensive documentation of successful experiences of the potential for these (financing) mechanisms to be used more widely as instruments to generate resources. Also, PAMBs lack the capacity to generate sufficient information as basis for the setting of charges; as a result, many PAs have not fully applied user charges for the use of ecosystem resources and services (REECS 2014).

### **Objectives of the Study**

This research policy study seeks to improve the revenue base for the conservation of protected areas, especially those with high biodiversity value, by comparing the planning and management arrangements of viable conservation financing mechanisms in the Philippines. Specifically, the paper aims to identify the existing conservation financing mechanisms in the country, compare the planning and management arrangements of these mechanisms, and present possible solutions to constraints, and to improve and/or sustain financing of key biodiversity areas in the Philippines.

### **Research Strategy**

The study utilized (a) gathering of secondary data, (b) key informant interviews of experts and practitioners in biodiversity conservation and conservation financing, and (c) site visits/field validation as complementary methods of

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gathering information for this research. Specific key biodiversity areas visited in the conduct of the study include the Silonay Mangrove Conservation and Eco-park in Calapan City, Oriental Mindoro, and the Mt. Kalatungan Range Natural Park in Bukidnon (see figure 1). The information gathered was then analyzed through qualitative assessments mainly in the form of literature review and content analysis.

### Assumptions

The study worked under the assumption that all the terrestrial and marine protected areas in the country and all current and potential conservation financing mechanisms can be classified/characterized and thus can be evaluated utilizing secondary data/information and key informant interviews. Furthermore, the identified conservation financing mechanisms can be evaluated and matched with the prioritized protected areas.

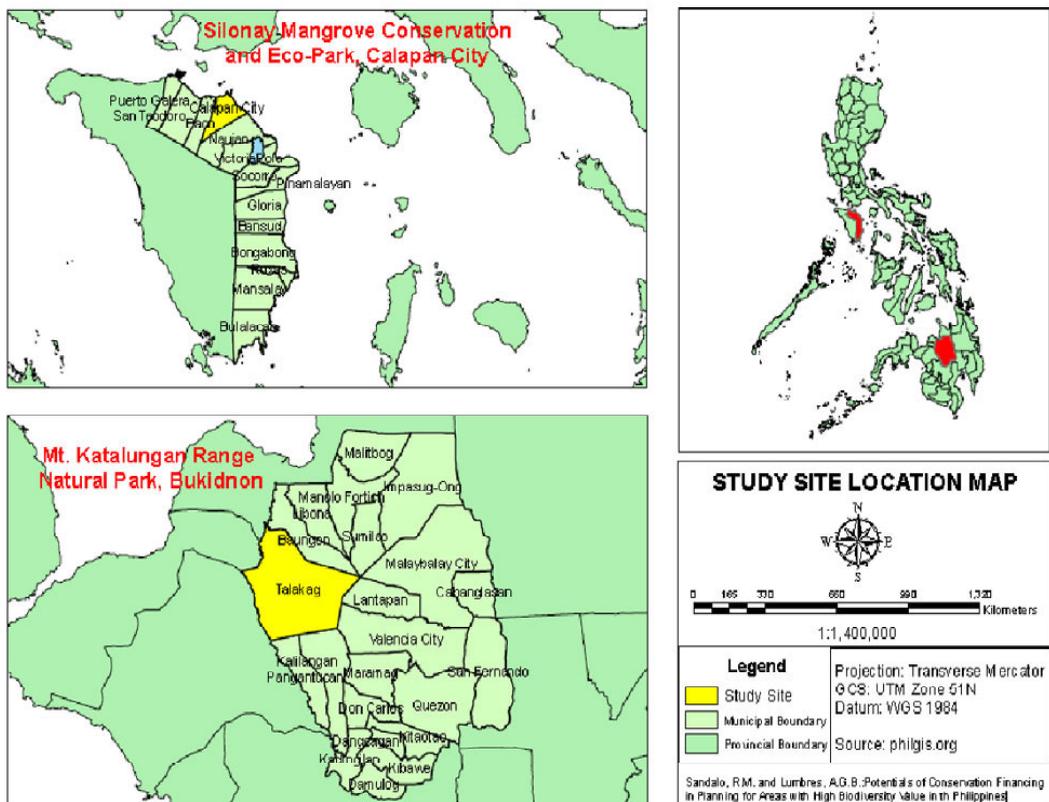


Figure 1. Location map of the study sites

### **Conservation Financing Schemes**

Four types of conservation finance mechanisms were identified existing in the country, either already practiced or still being initiated (see table 1). The most popular and widely used scheme is the user fee system. This system includes entrance fee, development fee, and resource/facilities user fees. Following the cost-recovery principle: the costs of maintaining or protecting the protected area are to be borne by the users of the protected area. The NIPAS Act, and DAO 1996-22 amended by DAO 2000-51, paved the way for PA managers to adopt the user fee mechanism. In fact, as early as 2000, the then Parks and Wildlife Bureau (PAWB) of the DENR in cooperation with the US Agency for International Development (USAID) commissioned its experts in their Environmental and Natural Resources Accounting Project (ENRAP) to produce a “Manual for the Implementation of the Fee System Guidelines in Protected Areas.” It included guidelines in estimating PA entrance fee, facilities user fee, resource user fee, development fee, concession charge, and royalty.

Examples of areas with high biodiversity value implementing the user fee system include (a) the Tubbataha Reef National Marine Park and the (b) Puerto Princesa Subterranean River National Park or the Underground River; both are located in Palawan province. Tubbataha is charging PhP 3,000 per diver as entrance fee, and from PhP 3,000 to 6,000 per dive boat entry depending on the gross tonnage of the boat carrying the divers. Depending on weather condition, but generally, divers visit Tubbataha from February up to mid-June every year. The Underground River, meanwhile, charges PhP 175 per person for a visitor entry fee. Each day, only a thousand visitors are allowed entry to the Park, based on a “carrying capacity” study undertaken for the Park.

Similarly, the Local Government Code (RA 7160) and the Fisheries Code (RA 8550), amended by RA 10654, provide legal bases in establishing the user fee system among MPAs that are not part of the PA system under NIPAS. For example, the local governments of Mabini and Tingloy, Batangas, have since 2007 jointly been collecting PhP 100 per person per day or an annual fee of PhP 1,000 from divers visiting the Anilao dive sites within their municipal waters.

For those within the nationally managed PA system, the user fee scheme is expected to be implemented more extensively in the future with the passage of RA 10629 in 2013, amending NIPAS Act (RA 7586). The amendment now allows the automatic retention of 75 percent by PAMB of the revenue accruing to the IPAF, to which the PAMB can immediately use the retained amount for their park management activities. The remaining 25 percent meanwhile is remitted to the central IPAF which can be availed of by other PAs (mostly those unable to generate

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**Table 1. Various types of conservation finance mechanisms in the Philippines, their planning arrangements/requirements, and current and policy/legal support and instruments**

Type of conservation finance mechanism	Planning arrangements/ requirements	Policy/legal instrument
<b>User Fees:</b> entrance fee, development fee, resource user fee, facilities user fee; cost-recovery principle	A. Formulation and approval: (a) PA Management Plan (b) Business Plan B. Conduct of Benefit Transfer Study or Willingness-to-Pay Study or Valuation Study C. Designing of collection and disbursement schemes	RA 7586 amended by RA 10629; RA 7160, and RA 8550 amended by RA 10654; and DAO 1996-22 amended by DAO 2005-21
<b>Public-private partnership:</b> leveraging private sector financing for new ventures, improved compliance, and institutionalizing shared responsibilities through proper alignment of park requirements and private sector contributions	A. Formulation and approval: (a) PA Management Plan (b) Business Plan B. Conduct scoping, due diligence, consultation/ negotiation to (a) optimize private sector financing; (b) institutionalize shared responsibilities; (c) explore programmatic environmental permitting	RA 7586 amended by RA 10629; RA 7160; RA 6957 Memorandum of Agreement
<b>Payment for ecosystem services:</b> resource users and communities who provide ecosystem services should be compensated for the costs of their provision, and that those who benefit from these services should pay for them; a strong incentive to environmental protection and conservation	A. Formulation and approval: (a) PA Management Plan (b) Business Plan B. Conduct: (a) scoping activities to identify ecosystem services, sellers and buyers,	RA 7586 amended by RA 10629; RA 7160; EO 816 Memorandum of Agreement

Type of conservation finance mechanism	Planning arrangements/ requirements	Policy/legal instrument
	<ul style="list-style-type: none"> <li>(b) economic valuation and/ or estimation of investment requirements</li> <li>(c) defining roles, specifying deliverables and obligations, drafting contracts/ agreements, negotiations</li> </ul>	
<p><b>Community enterprise development:</b> sustainable social enterprises and livelihood of people living inside PAs and multiple-use zones that would enhance protection of areas with high biodiversity, by developing people's capacity to manage their own enterprises</p>	<ul style="list-style-type: none"> <li>A. Formulation and approval:               <ul style="list-style-type: none"> <li>(a) PA Management Plan</li> <li>(b) Business Plan</li> </ul> </li> <li>B. Conduct               <ul style="list-style-type: none"> <li>(a) PRA of the agro-ecological situation of the community resources;</li> <li>(b) Community Development/Social Enterprise Development Planning (including capacity building activities);</li> <li>(c) Formation of new or reorganization/ reorientation of existing community organization</li> </ul> </li> </ul>	<p>RA 7586 amended by RA 10629; RA 7160 Conservation Agreement Memorandum of Agreement</p>

Sources: REECS, 2013; Sandalo and Lumbres, 2016

substantial revenue for conservation). Prior to the amendment, the tedious process of accessing back the funds from IPAF proved to be a disincentive. They were required to first remit everything to the central office and request for their share later after one year when Congress approves DENR's budget that includes the IPAF.

The public-private partnership (PPP) scheme, on the other hand, is not unlike the Build-Operate-Transfer Law (RA 6957), designed to encourage active private sector participation and boost infrastructure development in the country. Most initiatives involving the private sector supporting parks and key biodiversity areas have tended to fall under Corporate Social Responsibility (CSR), where the private sector entities are directly providing the PAs with their philanthropic funds. Relatedly, through the PPP scheme, the public sector can most effectively generate private resources for protected area management by providing incentives to the private sector to meet business objectives (REECS 2014).

Examples of PPP include the: (a) Mt. Apo Natural Park in Davao (b) Mt. Isarog Natural Park in Bicol, and (c) Ninoy Aquino Parks and Wildlife Center in Quezon City. The Mt. Apo Park management is initiating moves to institutionalize shared responsibilities by partnering with the Energy Development Corporation (EDC). The latter is tapping the geothermal energy of the mountain. The Mt. Isarog Park management, on the other hand, is leveraging private sector financing through improved compliance. The Bicol Hydro Corporation is utilizing the water from Mt. Isarog for its hydro power plant. The Ayala Land Inc. meanwhile is exploring possible financing of new ventures with the Parks and Wildlife Center. These arrangements were still in their incipient stage, as they were assisted by REECS and documented in their Final Report: Sustainable Financing of PAs Project in 2014. However, this study was not updated as to whether or not these initiatives were already being implemented.

Next is the payment for ecosystem services (PES) scheme. In this regard, the “resource users and communities who provide the ecosystem services are to be compensated for the costs of their provision (of said services), and that those who benefit from these services shall pay for them.” It is claimed that this scheme provides for a strong incentive to environmental protection and conservation (Pagiola 2004; Wunder 2005; WWF 2009). This scheme is already implemented in many other countries, but is not so popular here in the country.

To illustrate the PES scheme is the case of the Mt. Kalatungan Range Natural Park located in Bukidnon province in northern Mindanao. With the assistance of several government and non-government institutions, some entities in Cagayan de Oro City located downstream of the Cagayan de Oro River basin are “buying” the ecosystem services provided or “sold” by the indigenous Ancestral Domain Title holders located along the fringe of the Mt. Kalatungan Range Natural Park, upstream in Bukidnon. The controlled river flow downstream that were “sold” was brought about by the intact watershed upstream. The watershed remained intact because of the practices undertaken by the “sellers,” including agroforestry, contour farming, reforestation, and rainforestation.

While the PES scheme is now practiced worldwide, its application has many challenges: (a) lack of knowledge concerning the links between ecosystem management, service provision, and economic activity; (b) the absence of enabling policies and institutions to capture willingness-to-pay, resulting in limited effective demand for ecosystem services; and (c) limited capacity to design and implement PES schemes, especially in developing countries (REECS 2014).

Finally, very similar to the integrated conservation and development strategy and the community-based resource management approach during the 1980s is the community enterprise development mechanism. In this regard, sustainable social enterprises and livelihood of people living inside PAs and multiple-use zones were to be assisted that would expectantly enhance the protection of areas with high biodiversity, by developing people's capacity to manage their own enterprises. Several nongovernment organizations (NGOs) and community-based civil society organizations (CSOs) do advocate the adoption of this kind of scheme.

An example of those initiating the community enterprise development mechanism are the communities near Mt. Kanlaon Natural Park in Negros Oriental, led by the Cabagna-an Active Producers Social Enterprise Association (CAPSEA) that underwent training to produce organic vegetables, such as lettuce special packing and root crops like taro, to be processed into chips, and by the Yubo United Producers Association (YUPA) that plans to produce organic root crops, ginger, guyabano, and banana for processing into chips, candy, and juice.

Also, the Sama-samang Nagkakaisang Pamayanan ng Silonay (SNPS) in Calapan City, located fringing the Verde Island Passage, which is claimed as the center of the center of marine shore fish biodiversity in the world (Carpenter and Springer 2005), entered into a Conservation Agreement with an environmental NGO, the Conservation International, that formed the eco-tourism cum social enterprise in Silonay, Calapan City, now known as the Silonay Mangrove Conservation and Eco-Park. The conservation agreement detailed the mangrove conservation and rehabilitation activities of SNPS in exchange for the capacity building and livelihood assistance of CI to the local people. It practiced an output-based payment scheme for their mangrove reforestation endeavor, where payment was made in tranches to ensure high survival rate among the mangroves planted. The improved mangrove stand in the area will eventually help ensure the ecological integrity of the Verde Island Passage including its adaptation capacities to the changing climate.

### **Planning and Management Arrangements**

A protected area “refers to identified portions of land and water set aside by reason of their unique physical and biological significance, managed to enhance biological diversity and protected against destructive human exploitation” (RA 7586). As such, in order to manage them properly and effectively, each protected area, be they created through a presidential proclamation, by congress, or a local ordinance, has to have its own Management Plan.

The implementation of the Management Plan of a PA within NIPAS shall be supervised by a multisectoral protected area management board (PAMB) which decides “the allocations for budget, approve proposals for funding, decide matters relating to planning, peripheral protection and general administration of the area in accordance with the general management strategy” (RA 7586).

To close the funding gap, between the cost of actions to manage a PA and the usually limited funds to cover such activities, REECS (2014) recommended that a Business Plan has to be formulated, through logical framework planning. The Business Plan indicates appropriate assumptions ensuring that those who bear PA costs are recognized and adequately compensated and that those who benefit from PAs make a fair contribution to their maintenance. The Business Plan will then guide PA management in deciding what type of conservation financing scheme might be applicable in their own area of responsibility. After all, according to experts<sup>4</sup> interviewed, conservation financing are largely site-specific and that no single mechanism can be applied true to all areas with high biodiversity value in the country.

Consequent to business planning, the following were suggested steps to determine the viability of the identified conservation financing scheme:

- A. The conduct of either a Benefit Transfer Study, a Willingness-to-Pay Survey, or a Valuation Study would be essential to determine if a user fee system is feasible for a certain PA. The results of these studies will also help the PA management in designing its collection and disbursement scheme (REECS 2013).
- B. In the case of a PPP scheme, the PA management has to conduct scoping (to determine the possible coverage of the partnership) and its due diligence on how the possible partner is committed and may be able to pursue the partnership agreements. The PA management also has to be skilled in conducting consultation/negotiation among stakeholders including its potential partner to (a) optimize private sector financing, (b) institutionalize

shared responsibilities, and/or (c) explore programmatic environmental permitting (REECS 2014).

- C. The experience of the Mt. Kalatungan Range Natural Park (55,692 ha established in 2000 through a Presidential Proclamation) is instructional relative to the establishment of a PES scheme. The Natural Park is located in the headwaters of the Cagayan de Oro River Basin, which straddles the provinces of Bukidnon and Misamis Oriental in Mindanao. The mountain range is one of the country's key biodiversity areas, home to 342 species of plants of which 122 are considered threatened, endemic, or economically/culturally significant. Also, 129 species of animals were recorded in the Park comprising of 98 species of birds, 13 mammals, 17 reptiles, and 14 amphibians. The animal species include the endemic Philippine macaque, Philippine grass owl, white-eared brown dove, as well as the endemic and threatened Philippine eagle. Mt. Kalatungan lies opposite another key biodiversity area in the province—the Mt. Kitanglad Natural Park.

Through scoping, which started sometime in 2012 (after Typhoon Sendong), the ecosystem services and the potential sellers and buyers of the ecosystem services were identified. The scoping and many other preparatory activities were undertaken by several government agencies (led by the Biodiversity Management Bureau or BMB) and NGOs.<sup>5</sup> Later, economic valuation and/or estimation of investment requirements were conducted, deliverables and negotiations for obligations between and among parties involved were identified, and several contracts and agreements were formulated. Contracts and agreements were signed during the official launching of the PES scheme in May 2014. The principal actors of the scheme and the ecosystem services, were as follows:

- a. The “seller” – MILALITTRA, a tribal association, belonging to the Talaandig-Kalatungan ethnic group. Earlier, they were awarded in 2003 with an Ancestral Domain Title covering 11,367 ha, overlapping a portion (around 2,000 ha) of the buffer zone of the Mt. Kalatungan Range Natural Park. Currently the members of the tribal association are producing corn, and high value crops such as potatoes, carrots, beans, cabbage, and tomatoes. With the PES, they are willing, as mentioned by their chieftain, Datu Rio Besto, to undertake agroforestry with contour farming, reforestation, and rainforestation (altogether in 1,648 ha) within their ancestral domain that will ensure the continuous flow of provision of the ecosystem services thereby benefitting the buyers. The community development plan of MILALITTRA that spells out the

commitment of the seller is included and form part of the management plan of the Mt. Kalatungan Range Natural Park. Their chieftain sits as member in the PAMB of the Natural Park.

- b. The “buyers” – the actual but initial list includes the Mindanao Development Authority, the cooperatives located in Cagayan de Oro City, through their social development fund (i.e., Bukidnon Pharmaceutical Multipurpose Cooperative, First Community Cooperative, National Federation of Cooperatives, Oro Savings and Sharing Cooperative, and Philippine Federation of Credit Cooperatives), and the Pilipinas Shell Corporation. The long list of potential buyers are the allied utility services (i.e., water districts, electric cooperatives, National Irrigation Administration), city residents, business groups, ecotourism operators, large plantation growers, and LGUs. All these were either located and/or representing the population downstream of the river basin, and mostly recognizing the importance of an intact watershed so that the flash flood experienced during Sendong (Tropical Storm Washi) in 2011 will never happen again.
- c. The ecosystem services – the buying and selling assures the provision of the following ecosystem services: flood abatement, disaster risk reduction, and sustainable water supply. In producing these ecosystem services, a hectare of land, either reforested preferably with endemic species (rainforestation) and/or cultivated through contour farming, upstream, is “sold” to buyers downstream estimated at PHP 13,257 annually.
- d. The fund manager – the Xavier Science Foundation is mediating between, and mutually identified by, the buyers and the seller. The Foundation assists the seller to ensure that they are committed as well as capable to change and/or improve their land use thereby contributing to the supply, and thus assuring the buyers, of the ecosystem services. Also lately, the fund managers have taken it upon themselves to work on the social marketing side of the idea and demonstrate that the PES concept really does work. In fact, they are negotiating with additional potential buyers, to make sure that the latter shall fulfill what has been agreed between both parties.

Interestingly, and as inspired by the PES scheme already established in the area, a PES-like scheme was also initiated by the municipality of Talakag, Bukidnon, likewise located within the Cagayan de Oro River Basin and one of the municipalities comprising the Kalatungan mountain range. In 2015, the local government of Talakag passed an ordinance establishing a "PES" where a certain amount was to be collected from consumers for every cubic meter of domestic water consumed from the local water system owned and operated by the local government unit (LGU). The amount collected were to be utilized by the LGUs' environment office to (1) reforest its watershed areas that are tributaries to the river basin, and (2) serve as additional funding support to the operations (i.e., incentive allowance of the forests guards, of the Natural Park). The mayor of Talakag also sits as member of the PAMB of the Mt. Kalatungan Range Natural Park.

- D. The experience of the Silonay Mangrove Conservation and Eco Park in Calapan City, Oriental Mindoro, can exemplify the establishment of a community enterprise development mechanism. Barangay Silonay is located within the Verde Island Passage—a key biodiversity area in the country. The Mangrove Conservation and Eco Park was established through the partnership between the SNPS (Sama-samang Nagkakaisang Pamayanan ng Silonay), a local people's organization (PO) and the Conservation International (CI), an international environmental nongovernment organization.

The two organizations agreed to work on the conditions of a Conservation Agreement where the local PO were to be paid by the CI for a conservation action of enrichment and rehabilitation of the 25-hectare mangrove forest in the village's mangrove area along with the protection of the whole Mangrove Conservation and Eco Park (declared through a local/city ordinance). But the payment was only to be released to the local PO after (say, one year) when the trees planted have fully grown. Should the seedlings planted die, they were to be replaced and maintained until they are fully grown.

The payment received by the PO was not however released directly among their individual members, but were instead invested by the PO to community enterprises and other livelihood opportunities, foremost of which is ecotourism, for the community. Using the revenue generated through the Conservation Agreement, a 100-meter mangrove board walk was constructed in their eco-park to which an entrance fee (PhP 50 per head) was collected. A sari-sari store was strategically installed by the PO in front of the gate towards the boardwalk. There were also food processing ventures that were initiated.

CI did not only provide funds for its Conservation Agreement, but they were actually earlier also involved in financially supporting community preparation including capability building, and the conduct of ecological resource assessments, in relation to their passage-wide ecosystem-based climate change adaptation project. In addition to CI's support, and as inspired by the POs initiatives, the City Government of Calapan and Provincial Government of Oriental Mindoro and several other local and international entities have also provided additional funds to expand the community's mangrove ecotourism. The local governments financed the extension of their mangrove boardwalk (another 100 meters), while the Embassy of Australia helped in building a bird observation and watchtower (worth at least PhP 250,000), and the environmental NGO Bantay Kalikasan provided for a number kayaking boats and paddles to be rented out to visitors and tourists.

Table 2 provides a guide to determine the benefits and costs of choosing the appropriate financing mechanism for conservation areas.

### **Conclusions and Recommendations**

The following conclusions and recommendations are derived from this study:

1. There are already existing and initiated conservation finance mechanisms that the managers of areas with high biodiversity value can utilize. Lack of documentation however, as well as absence of clear guidelines, except on the user fee system (i.e., how they can be established, planning and managements arrangements, etc.) are possible factors why they are not widely known nor practiced by PA managers. Extensive documentation, exhaustive impact evaluation (effectivity, efficiency), and wider dissemination regarding the schemes are thus imperative to be undertaken by research and development institutions—including the academe—so that (a) PA managers can better appreciate all the alternative schemes available, (b) clearer guidelines can be formulated, and (c) more PA managers shall be able to plan for and implement at least one conservation finance scheme.
2. The establishment of these conservation financing mechanisms can tremendously help the PA managers in closing the gap between PA management funding needs and the funds that are available to the PA managers to be able to properly manage areas with high biodiversity value. None of these mechanisms can be developed, however, if the concerned PAs do not have a well-defined management plan and their related business

**Table 2. A “Balance Sheet” of the costs in establishing a mechanism vis-à-vis their potential/actual revenues**

Conservation Finance	Inputs	Potential/Actual Revenues
<b>User Fees</b>	A. Costs of formulating: (a) a PA Management Plan (b) a Business Plan; B. Costs of conducting either: (a) a Benefit Transfer Study (b) a Willingness-to-Pay Study (c) a Valuation Study	<p><b>Examples of Projected Annual Revenues:</b>                      Bataan National Park (mountain) - from PhP 2.4 M to 4.4 M                      Naujan Lake National Park (lake ecosystem) - PhP 19.1 M                      Ninoy Aquino Parks and Wildlife (urban park) - PhP 115 M                      Sagay Marin Reserve (marine ecosystem) - PhP P746,895</p> <p><b>Examples of User Fees:</b>                      Entrance fees -snorkeling, diving, mountaineering/trekking fees, user fees for commercial film and still photography, etc.                      Development fee - telecoms user fee, etc.                      Resource user fees - water use fee, fishery-resource use fee; agricultural production fee; etc.                      Facilities user fee - e.g., parking fee</p>
<b>Public-private partnership</b>	A. Costs of formulating: (a) a PA Management Plan (b) a Business Plan B. Costs of conducting: (a) scoping (b) due diligence (c) consultation/ negotiation	<p><b>Examples Revenues through PPP:</b>                      Through a MOA signed with the PAMB, the Bicol Hydro Corp. has committed to remit PhP 1.4 annually (2014-2018) as “donation/water use fee” for the forest protection activities in <b>Mt. Isarog National Park</b>.                      Ayala Land Inc. has proposed to establish a world-class museum including concession areas within the <b>Ninoy Aquino Parks and Wildlife</b>, and for the latter to impose “development fees” estimated at PhP 7.9 M annually after a three-year lease holiday.</p>
<b>Payment for ecosystem services</b>	A. Costs of formulating: (a) a PA Management Plan (b) a Business Plan B. Costs of conducting: (a) scoping activities including special	<p><b>In Mt. Kalatungan Range Natural Park:</b>                      The ecosystem services of flood abatement, disaster risk reduction, and sustainable water supply were “sold” to “buyers” downstream, through reforestation (esp. endemic species cum rainforestation) and/or</p>

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Conservation Finance	Inputs	Potential/Actual Revenues
	<p>studies, i.e. hydrological studies if within a watershed, and 3-D mapping, to identify ecosystem services, sellers and buyers</p> <p>(b) economic valuation and/ or estimation of investment requirements</p> <p>(c) defining roles, specifying deliverables and obligations, drafting contracts/ agreements, and negotiations</p>	<p>agroforestry cum contour farming by “sellers” upstream, at PhP 13,257/ hectare/year.</p> <p>A total of 1,648 hectares were identified to be available upstream for reforestation and agroforestry activities</p> <p>Projected revenues: PhP 31.7 M annually or PhP 158.9 M for five years</p>
<b>Community enterprise development</b>	<p>A. Costs of formulating:</p> <p>(a) a PA Management Plan</p> <p>(b) a Business Plan</p> <p>B. Costs of conducting:</p> <p>(a) PRA to define agro-ecological situation of the community resources</p> <p>(b) planning and capacity development activities: community development, social enterprise development, formation of new or reorganization/ reorientation of existing community organization(s), etc.</p>	<p><b>In Silonay Mangrove Conservation and Eco Park:</b></p> <p>The revenue generated from CI thru mangrove replanting were spent to construct a board walk for tourists. Entrance fees now collected (PhP 50 per head).</p> <p>Part of the revenue from CI were invested in a sari-sari store and other livelihood (food processing) ventures</p> <p>Additional support came in: The local governments (city and provincial) financed the extension of their mangrove boardwalk (another 100 meters); the Embassy of Australia helped in building a bird observation and watchtower (worth at least PhP 250,000); Bantay Kalikasan provided for a number kayaking boats and paddles to be rented out to visitors and tourists.</p>

Sources: REECS 2013; Sandalo and Lumbres 2016

plan. In fact, not all PAs have an updated management plan while majority do not have a business plan. The inadequacy—if not total lack—of plans could indicate the quantity and quality of the PA management especially their managers (i.e., the Protected Area Supervisor [PASU] and staff). Consequently, it is but elementary that in addition to increasing the number of PA/park management staff who are recruited mainly because of their knowledge on, and capacity to oversee the management of a protected area, professionalizing PA or park management can be a relevant direction. Also, including PA or park management as a major concern among professional environmental planners (see RA 10587, the Environmental Planning Law)<sup>6</sup> may also increase the number of professionals who are knowledgeable about PA or park management.

3. Unfortunately, there is no single conservation financing mechanism that could be applicable in all the PAs and/or areas high biodiversity value. A mechanism is site-specific, and its establishment is dependent on so many considerations. In addition, it has to be noted that there could still be other schemes exclusive of what has been enumerated in this study that may still be tapped for conservation. These may include bio-prospecting, vehicle registration fund for conservation, green bonds/insurance and the like which are also worth looking into and be added into an array of potential and doable schemes.
4. The following are important considerations in setting up a sustainable conservation finance mechanism:
  - a. The type and quality of the natural endowment that are available in a PA including the ecosystem services that it can provide, the scenic and other attractions that it can offer, and its accessibility—especially if it was deemed that tourism will be a potential source of revenue—among others.
  - b. The capability, knowledge, and skills of the PA managers and their management boards in formulating management and business plans, undertaking specific studies (i.e., valuation study, willingness-to-pay, etc.), as well as mobilizing and/or negotiating with possible partners, and even with communities within, fringing, and outside—but may still benefit from—the well-managed/protected areas with high biodiversity value. In relation to an earlier recommendation on professionalizing PA or park management, it must be incumbent to the DENR-BMB and the Department of Interior on Local Government (DILG) to ensure that national and local PA managers are continuously

undergoing capacity building training on how to conduct the suggested preparatory studies on conservation financing, if not simply updated on their knowledge on these different kinds of studies so that PA managers will be able to ask for what is needed.

- c. The availability of possible partners (private sector), the willingness of communities to participate in any of the possible schemes, and the exogenous entities like NGOs, CSOs, and even the academe, who may be able to mobilize support, provide guidance, and/or extend technical assistance in the many facets (planning and management arrangements) in establishing a scheme.
- d. And more importantly, the policy support that can be provided by the national government to the national PA managers and to the locally managed protected areas (by the LGUs), so that they will be able to establish a doable conservation financing mechanism in their own respective areas of responsibility. After all, the obligation of the state to ensure better management of protected areas and the related biodiversity conservation, does not end in declaring an area with high biodiversity value into a protected area. It extends as well into maintaining a vibrant, well-managed, and inclusive network of protected areas in the country. Some policy support can either be in terms of (1) providing for some start-up/support funds so that PAs will have some leeway in stabilizing its revenue source(s) for conservation; (2) creating of an incentive system for conservation stakeholders that will encourage them to engage more on conservation efforts so that PAs can generate a more steady stream of revenues for conservation; and (3) formulating implementation guidelines, to be issued individually or jointly, by relevant agencies (DENR-BMB and DILG at the very least), so that PA managers and other possible stakeholders (i.e., CSOs, NGOs, communities, private sector, and academe, etc.) are so properly guided in pursuing conservation financing. The guidelines may include at least: the establishment of these schemes, the collection of revenues per scheme, the roles and functions of stakeholders including the operational procedures to set up an adequate and transparent revenue collection system and other management systems. These policy recommendations do not necessarily require further amendments of the NIPAS Act but can be formed as additional policies to support the existing legislations on conservation areas.

### Notes

- 1 Users of PAs in this case refer to all those benefitting from environmental goods and services being provided by the PA
- 2 The assessment was made in relation to the preparation of the UNDP-GEF Project on Expanding and Diversifying the National System of Terrestrial Protected Areas in the Philippines – New Conservation Areas in the Philippines Project or NewCAPP.
- 3 Reforestation is a reforestation practice exclusively utilizing indigenous tropical rainforest species.
- 4 The authors would like to acknowledge the insights provided by several specialists they have interviewed, including but not limited to, Ms. Rina Rosales of REECS, Mr. Ed Tongson of WWF-Phils, Mr. Enrique Nunez of CI, Dir. Mundita Lim of BMB, Dr. Gem Castillo – freelance consultant, Dr. Perry Aliño of MSI, Mr. Roel Ravanera and his staff at XSF, Ms. Zorabel May Ramos of DENR X and Mt. Kalatungan Nature Park, Ms. Alma Bool of SNPS, and Datu Rio Besto of MILALITTRA.
- 5 The PES initiative in Mt. Kalatungan was spearheaded by the BMB (formerly Protected Areas and Wildlife Bureau) carried out through the National Program Support-Environment and Natural Resource Program (NPS-ENRMP) of World Bank and DENR Central Office with DENR X, UNDP-GEF New Conservation Areas in the Philippines Project (NewCAPP) and Resources, Environment and Economics Center for Studies, Inc. (REECS) in partnership with Cagayan de Oro River Basin Management Council (CDORBMC), Enterprise Works Worldwide Philippines (EWWP) and the Philippine Association for Intercultural Development, Inc. (PAFID), and later with the participation of the Miaraayon, Lapok, Lirongan, Sitio Tinaytayan, Talaandig Tribal Association (MILALITTRA) and the Xavier Science Foundation.
- 6 RA 10587 professionalizes environmental planning which “refers to the multi-disciplinary art and science of analyzing, specifying, clarifying, harmonizing, managing and regulating the use and development of land and water resources, in relation to their environs, for the development of sustainable communities and ecosystems.”

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