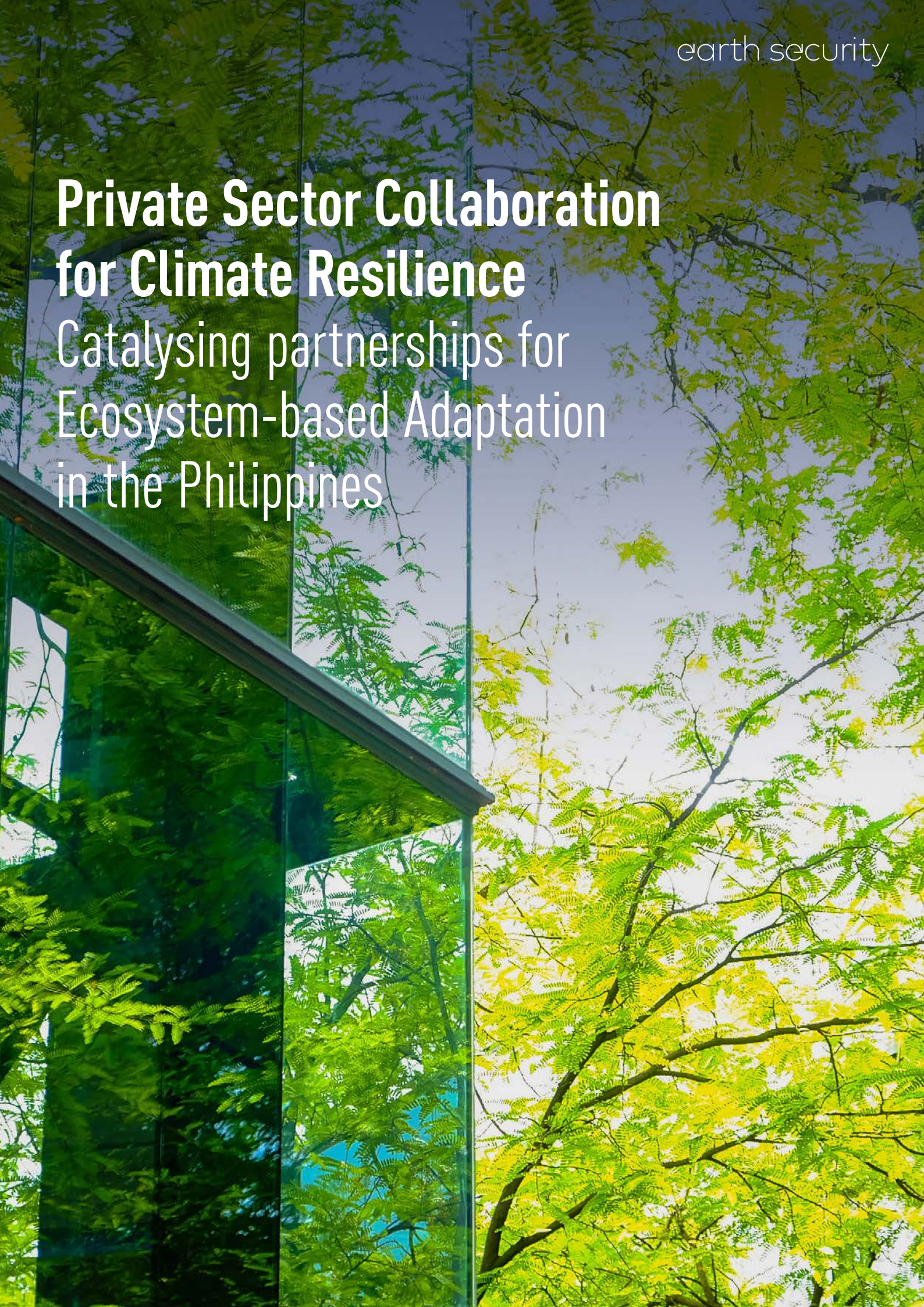
earth security

# Private Sector Collaboration for Climate Resilience

## Catalysing partnerships for Ecosystem-based Adaptation in the Philippines



Executive Summary

# Private Sector Collaboration for Climate Resilience

## Catalysing partnerships for Ecosystem-based Adaptation in the Philippines

**Private sector companies are acutely aware of their growing exposure to climate change, in particular to extreme weather events, rising temperatures, and more recurrent and intense droughts and floods. Building resilience to these risks is especially pressing in countries that are highly vulnerable to climate change, such as the Philippines.**

Ecosystem-based Adaptation (EbA) uses the services provided by forests, mangroves, coral reefs, watersheds and other ecosystems to adapt to these changing environmental conditions. Their services may include water filtration and purification, coastal protection against storm surges, reproductive havens for commercial fisheries, or temperature and humidity controls. Investing in these services is increasingly referred to as 'nature-based solutions' or, when used as part of infrastructure projects, as 'green infrastructure'.

Using nature-based solutions for climate adaptation has been found to deliver more cost-effective, adaptive and broader benefits than grey infrastructure projects alone. For example, mangrove forests can reduce a tsunami's tidal force by up to 90%.[1] Investing in regenerating mangrove forests as a protective barrier against these extreme events will have significantly lower maintenance costs than a seawall, while providing additional benefits such as carbon sequestration, nursery grounds for fisheries and crabs that support food security and local economies, and control of coastal erosion.

The economic value of nature's services in climate adaptation has been an intense area of study over the past years by researchers and environmental organisations; and some of their findings have been translated for a global private sector audience. However, operationalising the roles that industries and private finance can play in advancing ecosystem-based adaptation will require a targeted private sector engagement and new models of cross-sector cooperation.

In the Philippines, Earth Security Group has found that the majority of private sector-led EbA investment projects are the result of compliance with government regulations. Realising the potential of EbA will therefore also require new institutional and regulatory mechanisms that can effectively integrate private sector resources and investments into the work of government agencies at national and local levels.

# Executive Summary
# Catalysing Opportunites

**This brief presents a series of private sector partnership platforms developed by Earth Security Group (ESG) in the Philippines in collaboration with country partners, to be further developed and hosted by these partners respectively.**

It reflects the outcomes of an initial two-year project to mobilise new forms of private-public cooperation to accelerate private sector interest and collaboration in EbA. The project was designed and led by ESG with funding from the International Climate Initiative (IKI) of Germany's Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.

The opportunities developed illustrate the potential to mobilise the private sector to scale support for ecosystem-based adaptation in the Philippines. For each opportunity area, the brief identifies specific policy actions that should form part of new programmes to embed private sector cooperation within legal frameworks and the institutionalisation of new forms of public-private cooperation for climate adaptation.

Opportunity 1
**Insurance and re-insurance action to streamline EbA**

The insurance and re-insurance sector can streamline EbA adoption by integrating the protection value of ecosystems into the risk pricing methodologies of insurance premiums and creating innovative product portfolios based on EbA.

**Page 6**

Opportunity 2
**Private-public investment cooperation for EbA**

Private sector investments in ecosystem conservation can be scaled and streamlined through the creation of pooled funds that leverage the resources of government agencies and are integrated into conservation policy frameworks.

**Page 9**

Opportunity 3
**Incubating EbA business partnerships with local governments**

Incubating EbA private sector partnerships with local governments requires a focus on capacity building, replicable new collaboration models, and a role for private sector EbA investments in local government frameworks.

**Page 12**

# Introduction
# The context for business: EbA as a cost-effective risk mitigation strategy for the private sector

**The private sector is increasingly open to adopting nature-based approaches to climate adaptation because they are more cost-effective, multi-purpose and flexible than 'grey' infrastructure in adapting to climate risks.**

**'Ecosystem-based Adaptation (EbA)' uses ecosystem services for climate adaptation.** This includes conserving, managing and restoring ecosystems such as mangroves, seagrass, coral reefs, forests, grasslands, rivers, lakes, and soil using sustainable resource management activities.[2]

**EbA adaptation investments can be cheaper than grey infrastructure.**[3] For example, engineering firm Jacobs CH2M estimated that over a 15-year investment period, conserving mangroves and coral reefs can be 50 times more cost-effective than building a seawall, which requires significant capital to build, operate and maintain over time.[4] The Philippines has lost about half its mangrove habitat over the past century. [5] If mangroves were restored to their 1950 levels, an estimated USD 450 million in storm damages costs could be avoided annually.[6] EbA approaches can also create business opportunities. In the Philippines, conserving marine resources is expected to quadruple the value of tourism by 2025.[7]

**The private sector in the Philippines uses EbA.** For example, Ayala Land is developing its Nuvali Sustainable Estate project, which features a forest of native trees to provide urban cooling and enhance disaster resilience against typhoon winds. The premium for green development has led to land values growing by 14% annually over the 6 years of operations, increasing property values.[8]

The Energy Development Corporation (EDC) has invested in protecting the watersheds near its geothermal plants to secure water resources for its operations. EDC has partnered with over 88 farmer-associations to implement a flagship reforestation program. Since 2009, it has invested over USD 5 million to restore some 9,000 hectares of denuded forest lands within its geothermal reservations, leading to reduced soil erosion and improved geothermal recharge.[9]

**Private sector compliance with regulations is a big driver of EbA investments.** According to Earth Security Group's analysis of 100 private sector-funded EbA projects in the Philippines, almost 25% of EbA projects driven by companies in the Philippines were started in response to a government policy. These include the social and environmental levies of the Philippine Mining Act; the Payments for Ecosystem Services (PES) requirements of the Electric Power Industry Reform Act; and the required offsetting of negative environmental impacts in the infrastructure sector. Companies in the mining sector spent USD 8.8 million in line with mandated social and environmental programmes on activities ranging from community social projects to tree planting.[10]

**Private sector EbA programmes, such as tree and mangrove planting, need to be embedded in local development plans if they are to be scaled up effectively.** Tree-planting and mangrove replanting account for 75% of all private sector EbA programmes reviewed. Many of these initiatives aim to support government agencies and programs, such as the Department for Environment and Natural Resources (DENR)'s National Greening Program. This program has been at the centre of government efforts to engage with the private sector on conservation activities. However, with just 60% of seedlings surviving on average, these programmes must be better planned and integrated into existing land management plans to increase their effectiveness.[11]

**Private sector partnerships for climate resilience have predominantly focused on disaster recovery and response. Government agencies can help to increase the focus of business on partnerships for ecosystem resilience.** The Philippine Disaster Resilience Foundation and the local chapter of the UNISDR's Private Sector Alliance for Disaster Resilient Societies (ARISE) focus primarily on disaster recovery and response. In 2017, the National Resilience Council was set up to consolidate these disaster risk reduction (DRR) initiatives to foster public-private partnerships in accordance with the Sendai Framework for Disaster Risk Reduction. It will focus initially on making cities more disaster-resilient.[12] A number of companies, including Shell, Aboitiz, Smart and Globe, are helping local governments to build capacity for disaster preparedness and response.[13] There is considerable scope for further developing the focus of business partnerships on climate adaptation and the role of ecosystems in enhancing resilience.

# Introduction

## Why resilient ecosystems matter to the private sector's climate adaptation in the Philippines

**Agriculture**

## 45% OF FARMING LAND ECOSYSTEMS DEGRADED

The Philippines is the world's top exporter of coconuts and the third-largest pineapple producer.[14] In 2015, the company Del Monte lost USD 12 million in revenues due to the impacts of drought on pineapple crop productivity.[15] 45% of farming land ecosystems in the Philippines are already degraded, while only 6–8% of the country's primary forests remain.[16] With weakened ecological resilience of forests and land ecosystems, climate change is expected to accelerate the increase of forest fires and occurrence of pests and crop diseases.[17] 20 million tonnes of crops a year are estimated to be lost to desertification globally, while the prolonged El Nino season in 2015–2016 caused USD 80 million of damage to farms.[18]

**Fisheries**

## AVERAGE 50% DECLINE IN FISH CATCHES

The Philippines is the eighth-largest producer of fish in the world, with exports valued at USD 1.2 billion in 2013.[19] Since the 1970s, overfishing and increasing sea temperatures have cut the average fish catch by 50%. Davao Fish Port, a major landing and exporting site for tuna, reported a 20% fall in the tuna catch in 2011.[20] In addition, artisanal fishing is the primary source of income for 1.5 million people in coastal communities. 75% of the Philippines' fishing grounds are overfished while spawning grounds are being degraded: only 5% of coral reefs in the Philippines is said to retain at least 75% of their live coral cover.[21] As a result of ecosystem degradation and overfishing, fisheries production in the Philippines is projected to fall by 50% by 2050.[22]

**Real Estate**

## $5 BILLION OF GDP AT RISK FROM STORMS

Real estate is one of the fastest growing sectors in the Philippines, contributing around 20% of GDP.[23] Extreme weather is increasing financial risks for real estate developers, lenders and investors. Between 2005 and 2015, 56% of property damage was due to typhoons and storms.[24] In 2009, Typhoon Ketsana caused USD 280 million in property damage, leading to the second-highest level of insurance claims in Philippine history.[25] The Lloyd's City Risk Index estimates more than USD 5 billion of GDP will be at risk from increased typhoon winds and flooding over the next 10 years.[26]

**Infrastructure**

## HYDROPOWER CAPACITY FALLS BY 50%

Infrastructure spending is set to grow from 3.3% of GDP in 2015 to 7.2% of GDP by 2022. [27] Extreme weather is driving up operating costs for infrastructure assets, including power and water utilities and transport infrastructure. In 2009, USD 439.5 million of infrastructure in Metro Manila had to be re-built because of Typhoon Ketsana.[28] In 2015, hydropower production capacity in the Pulangi IV plant in Mindanao fell by over 50% due to drought.[29] By 2020, water utilities in Manila are expected to experience heightened water stress due to climate change.[30] Typhoon Haiyan caused over USD 200 million in damage to infrastructure.[31] Without mitigating measures to adapt to these extremes, climate-related extreme events will aggravate vulnerabilities.

# Opportunity 1
# Insurance and re-insurance action to streamline EbA

# Opportunity 1
# Insurance and re-insurance action to streamline EbA

## 1.1
## Rationale

Globally, insurance and re-insurance companies are beginning to realise the benefits of green infrastructure and valuing ecosystems in reducing risk exposure and innovating alternative insurance securities and products, such as resilience bonds, to finance climate adaptation.[32] A focus on new insurance solutions would be timely, as the Philippines' insurance sector is poised to grow in line with the government's aim to insure at least 50% of Filipinos by 2020. In 2015, premium growth in the non-life insurance sector in the country was the strongest in Southeast Asia.[33]

Catastrophe risk insurance coverage for climate-related extreme events is being pioneered at the micro-insurance level and province level.[34] The National Reinsurance Corporation and one of the country's largest banks BDO have launched the Philippines Catastrophe Insurance Pool to provide disaster risk finance and insurance for families and SMEs.[35] While these insurance products provide financial solutions for disaster response, their underlying risk pricing models have not yet factored in the benefits and risk mitigation capacity of natural ecosystems, but rather pay out when disaster strikes.[36] There is great potential to explore linking insurance or insurance linked securities (i.e. catastrophe bonds) to capital investments in resilience-building projects.

In addition, existing government funds for climate adaptation, such as the Peoples' Survival Fund (PSF) could explore ways to help capitalise ecosystem-based insurance products that help to protect local populations against extreme weather events.[37]

## 1.2
## A partnership platform

As part of the project, Earth Security Group convened key stakeholders to explore forming a collaboration platform to develop opportunities for the insurance and re-insurance sector, and subsequently partnered with the Philippine Insurers and Reinsurers Association (PIRA) to identify the strategic entry points for EbA adoption by the industry.

In collaboration with PIRA, key actors convened to the process included leading insurance and re-insurance companies like the National Reinsurance Corporation (NatRe), corporate members of the UN Principles for Sustainable Insurance; technical insurance advisors such as London-based Willis Towers Watson; and civil society organisations pioneering new financial models such as Conservation International (CI).

Two areas of opportunity to be further developed included:

1
**An Insurance Task Force for EbA**
Plans to develop a Task Force for EbA in Insurance, to be created and facilitated jointly with the Philippines Insurers and Reinsurers Association (PIRA). This would develop the economic analysis and methodology to enable the insurance and reinsurance sector in the Philippines to price the adaptation/protection values of natural ecosystems as risk mitigation for climate change. Creating a risk pricing methodology that incorporates EbA into all insurance products in key sectors like agriculture, energy, real estate and infrastructure, would support the mainstreaming of EbA in the national insurance and reinsurance sector.

2
**A Coastal Resilience Insurance Fund (CoastRIF)**
The development at a concept stage of a Coastal Resilience Insurance Fund (CoastRIF). A working group involving PIRA, the National Reinsurance Corporation of the Philippines (NatRe), global insurance advisor Willis Towers Watson, industry conglomerate Hijo Resources Corporation, and Conservation International would further explore the development of a pilot in the Davao Gulf region. This product concept would cover restoration costs needed after natural disasters (e.g. flooding, beach erosion, storm surges) affecting ecosystems such as reefs and mangrove forests that are critical to the livelihoods of local communities.

# Opportunity 1
# Insurance and re-insurance action to streamline EbA

## 1.3
## Policy actions

The following policies are identified by participants as ways to build greater momentum with government agencies and regulators to work collaboratively with the private sector on innovative solutions:

1
**Capacity building for insurance regulators**
A capacity building programme for the Insurance Commission – the sector's regulator – and other government agencies with a stake in the approval of new insurance products and schemes, which increases their understanding of the opportunities for the sector to factor EbA values in its risk pricing methodologies and in the development of new products. More broadly, this programme would build the regulator's capacity to consider the direction, policy developments and concepts to expand the field of climate insurance products in the Philippines.

2
**Tax incentives for climate insurance products**
A special tax consideration should be given to climate- and EbA-related insurance products that aim to protect natural ecosystems and benefit the livelihoods of local communities that are dependent on them. Currently, taxes levied on premiums for non-life insurance are 27.5%, which inhibits market experimentation with a range of climate resilience insurance products by making them too expensive to attract buyers. This is in contrast to life insurance products that are subject to just 2% tax on premiums. Making specific tax exceptions for climate-related insurance products is therefore a key policy if innovation in the sector is to be boosted.

3
**A regulatory innovation lab to try new solutions**
The Insurance Commission can adopt an 'innovation laboratory' approach for reviewing new insurance products, schemes and methodologies related to the integration of EbA by the insurance sector. This implies creating open processes aimed at co-creation, including conducting initial reviews for the purpose of providing feedback, and proactively mapping the pathways for approvals. This approach is needed to carve out a safe space for experimentation with innovative solutions. In such a laboratory, sometimes referred to as a 'regulatory sandbox', traditional and non-traditional financial institutions would be able to test new technologies and business models in a live but controlled environment, giving regulators the opportunity to learn and explore the adoption of legislation as needed.

"Integrating ecosystem-based adaption in the insurance industry is a way to enhance the sector's positive impact while expanding the portfolio of products in the market. Earth Security Group's project has been instrumental in creating this awareness, which in our sector is very low, and bring together players that can contribute to innovative solutions. As part of this process we have realized that the industry can actually do better and put its financial might behind doing something that's really impactful for the good of all."

**Mr. Michael F. Rellosa**
Executive Director,
Philippines Insurers and Reinsurers Association (PIRA)

# Opportunity 2
# **Private-public investment cooperation for EbA**

# Opportunity 2
# Private-public investment cooperation for EbA

## 2.1
## Rationale

Payment for Ecosystem Services (PES) funds are market instruments to monetise the value that economies derive from nature (e.g. carbon sequestration by forests paid for through carbon credits, or flood defences provided by coastal mangroves paid for as a portion of taxes levied).[38] Globally, the PES market is valued at USD 36–42 billion a year.[39] Increasingly, landscape-level funds are being used to take PES mechanisms to a larger territorial scale, aggregating conservation activities and spreading the risks and transaction costs of conservation investments.[40]

In the Philippines, government-led PES funds in electricity, tourism and water utilities are helping to increase tree planting activities. For example, power firms paying an 'environmental charge' to the National Power Corporation for reforestation and watershed rehabilitation, generated USD 5 million to rehabilitate over 1,600 hectares of watersheds in 2016.[41]

Despite the existence of PES and corporate reforestation programs, more than 50% of protected areas in the Philippines face a funding gap and continue to be heavily degraded and deforested.[42] The total financing gap for conservation in the Philippines is estimated at USD 378 million per year, the largest in the region.[43] To sustain financing and scale up impact, the Biodiversity Management Bureau is working with UNDP's Biodiversity Finance Initiative (BIOFIN) to identify business models that can promote biodiversity-friendly businesses.[44]

An opportunity was identified during the project to involve these efforts in defining workable mechanisms to involve the private sector to support and co-invest in such models. A public-private collaboration platform would enable companies to work together on identifying opportunities, but also act as an interface to facilitate dialogue with government agencies, informing and shaping government incentives to mobilise private sector investments. In such schemes, companies must identify a pilot ecosystem.

Ideally, this is linked to their operational footprint where there are business incentives to develop market-based conservation systems, including complementing or leveraging existing environmental levies and other forms of government local investments.

## 2.2
## A partnership platform

As part of the project, Earth Security Group (ESG) facilitated the formation of a working group that was led by Philippine Business for the Environment (PBE), involving companies and investment funds, civil society and government agencies, to identify opportunities to scale PES strategies with the participation of the private sector.

The group, which was formed at a project workshop, has continued to meet and elaborate an agenda. It has been led jointly by the Philippine Business for the Environment (PBE) as chair, First Philippine Holdings (FPH), the Biodiversity Finance Initiative (BIOFIN) Philippines, and the Department of Environment and Natural Resources (DENR). Participants such as Conservation International Philippines brought valuable experiences such as an endowment fund developed in Palawan with the Philippine Tropical Forest Conservation Foundation (PTCFCF), which offer insights into the further definition of financial instruments.

Two areas of opportunity to be developed further are:

1
**An Ecosystem Conservation Fund**
The outline of a private-public Ecosystem Conservation Fund (ECF) – an investment vehicle that could increase private sector participation in ecosystem conservation and restoration with a results-based, fund-pooling, and mixed-financing mechanism. The ECF would derive capital from corporate schemes for PES from participating companies, blending this capital with allocations from national government agencies and Local Government Units (LGUs).

# Opportunity 2
# Private-public investment cooperation for EbA

It would be initially tested in designated pilot areas where companies have local operations. The group expressed an interest in formulating a performance-based model by which local communities can access conservation funds linked to improvements in ecosystem services. As a start, the fund could consider focusing also on pre-identified Key Biodiversity Areas (KBAs) by the Department of Environment and Natural Resources (DENR).

2
**A regulatory framework for Payments for Ecosystems Services**
As a result of this collaboration, the group developed a draft bill 'Creating Market-based Mechanisms for Investments in Ecosystems and Biodiversity' which was presented to the congressional Committee on Ecology and Environmental Affairs by the end of 2018. This outcome was in itself significant, as a pioneering example of a private sector-led effort to collaborate with policy-makers putting forward elements of a regulatory framework that encourages EbA market mechanisms. Among other things, the bill seeks to catalyse the creation of an executive government order that helps facilitate the creation of blended finance funds such as the proposed ECF. This would encourage private sector investments in ecosystem value improvement through targeted incentives such as government co-investments or subsidies.

## 2.3
## Policy actions

The following policies are identified by participants as ways to build greater momentum with government agencies and regulators to work collaboratively with the private sector on innovative solutions:

1
**Including results-based private sector solutions in legislation**
Adding a policy framework for cooperation with private sector conservation investments – such as results-based PES schemes - would be particularly relevant to the newly enacted Expanded National Integrated Protected Areas System Act of 2018 (ENIPAS) under Republic Act No. 11038, which will strengthen the conservation of 97 ecologically critical areas in the country. These have been put under the control and supervision of the the Department of Environment and Natural Resources (DENR), through its Biodiversity Management Bureau (BMB). In addition to DENR, it is necessary to engage other agencies where private sector EbA mechanisms could play a key role, such as the Department of Agriculture.

2
**Reflecting EbA financing opportunities in green banking programmes**
Sustainable finance programmes and guidelines being developed by the Bankers Association of the Philippines, WWF Philippines and the Asian Institute of Management, as well as other key interested players such as the Central Bank (Bangko Sentral ng Pilipinas) and the International Finance Corporation in the Philippines, can incorporate an EbA component of green financing opportunities in sectors such as infrastructure, construction, real estate, agriculture and energy. Developing an EbA focus as part of green finance programmes would:

— help commercial banks to understand the benefits of investing in natural infrastructure and ecosystem services.

— support the integration of ecosystem values into risk management and lending processes in banking.

— facilitate the participation of banks in innovative conservation finance vehicles linked to ecosystems and protected areas.

"Our partnership with Earth Security Group focuses on exploring business and government collaborations to develop policies that can enable the private sector to scale up its investments in maintaining or regenerating the ecosystem services on which it depends."

**Bonar Laureto**
Executive Director,
Philippine Business for the Environment

# Opportunity 3
# Incubating EbA business partnerships with local governments

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## 3.1
## Rationale

In the Philippines, skills and partnership development programmes to address climate change have mostly focused on emergency responses and post-disaster reconstruction, and less on adaptation and sustainable resource management.

For example, after Typhoon Haiyan, the Technical Education and Skills Development Authority (TESDA) partnered with the International Labour Organisation (ILO) and international NGO ShelterBox to train carpenters in improved shelter-reconstruction projects and re-establishing livelihoods.[45]

Building private- and public-sector awareness and understanding of how to partner and invest in EbA is crucial. Executive business and leadership education programmes are needed to shape local mindsets around the value of ecosystems for the economy, innovative business models, and co-financing mechanisms.[46]

Innovation ecosystems –the incubators, business accelerators, research institutes and their funding partners – are therefore vital to foment the skills, networking and intellectual capital that is needed to support and scale nature-based solutions.[47]

The Asian Institute of Management (AIM) has been at the forefront of this space with a series of programmes and start-up enablers, such as the Social Impact Bonds Lab (SIB Lab). The purpose of these platforms is to combine research, training and incubation to support early stage, small and medium sized companies to grow and promote inclusive innovation. One of its first early stage firms is a start-up investment company that hopes to launch the country's first Social Impact Bond.[48]

The project identified the opportunity to build on such approaches to develop an innovation lab that would stimulate, incubate and accelerate the development of EbA partnerships with the private sector on a national scale. Such a platform would help to bring together angel investors and venture capitalists, provide leadership and capacity development services to entrepreneurs and act as a broker between policy-makers, companies and conservation organisations to identify and develop innovation EbA partnerships.

## 3.2
## A partnership platform

As part of the project, Earth Security Group (ESG) formed a strategic partnership with the Asian Institute of Management (AIM) to co-develop a set of platforms. As a result of the project, three areas of opportunity were set in motion to be developed further:

1
**A partnership to improve business education on EbA**
A partnership between AIM, ESG and HIJO Resources Corporation, an agro-industrial, commercial and tourism conglomerate in the Davao Gulf, to develop a series of business teaching cases to integrate EbA into executive management training courses at AIM and across other business schools around the world. The partnership provided business executives at AIM with a corporate management perspective on EbA, covering aspects of business leadership; strategy; and finance among others. The piloting of the cases increased the understanding of management students, faculty and private sector stakeholders on the various dimensions involved in a company's alignment with EbA.

**"As a result of this project we seek to work with Earth Security Group to build a Climate Resilience Lab and EbA incubator program based at the Asian Institute of Management. A new generation of leaders from regions of the country that are most vulnerable to climate change must be champions of EbA partnerships to strengthen the resilience of their regional socio-ecological systems."**

**Professor Manuel De Vera**
Executive Director,
AIM TeaM Energy Center for Bridging Leadership (AIMTEC),
Asian Institute of Management

# Opportunity 3
# Incubating EbA business partnerships with local governments

2
**A fellowship programme for local government executives**
A fellowship programme to build the capacity of local government executives to partner with the private sector to develop EbA projects that are integrated into local development plans. Earth Security Group and Asian Institute of Management are collaborating on the development of a fellowship programme that will target 25 Local Chief Executives (i.e. Governors and Mayors) from Local Government Units. Through a combination of executive courses, projects and incubation sessions, these are expected to play a pivotal role in generating replicable local government-led EbA partnerships and initiatives. In addition, large private sector companies in the Philippines with the potential to support EbA partnerships will be engaged to co-fund and partner with the programme, and participate as partners in the projects that are developed across different regions.

3
**A Climate Resilience Lab to incubate EbA partnerships**
The creation of a Climate Resilience Lab to host an EbA incubation programme under the AIM's TeaM Energy Center (AIMTEC) for Bridging Leadership. The lab will serve as an incubator of projects to be implemented in local government units. Currently ten students of the Master in Development Management (MDM) program are working on EbA measures within coastal environments in select communities in the Philippines as their capstone project, in areas that include coastal livelihoods and marine biodiversity protection and conservation. In the future, complemented by an EbA fellowship training programme for local mayors, this lab will become a venue for mentoring leaders to catalyse the participation of the private sector in EbA projects at the local level and in collaboration with local governments.

## 3.3 Policy actions

The following policies are identified by participants as ways to build greater momentum with government agencies and regulators to work collaboratively with the private sector on innovative solutions:

1
**Making Local Government Units a focal point for business partnerships**
Given the decentralization of powers afforded by the Philippine Local Government Code (Republic Act 7160), Local Government Units (LGUs) and their Local Chief Executives (LCEs) should be a key focal point for private sector EbA partnerships, and seen as champions for the institutional anchoring of private sector programmes within government.

2
**Leveraging public funds for climate adaptation**
Local policy frameworks such as the Local Climate Change Action Plans (LCCAP) and Local Disaster Risk Reduction and Management Plans (LDRRMP) have associated public funds, for example for disaster preparedness, which tend to be underutilised. There is significant potential for these government funding sources to incentivise the prototyping, implementation and scaling-up of matching private sector EbA programmes. There is also a long-term opportunity for private sector EbA partnerships to be embedded in Comprehensive Land Use Plans (CLUPs) and Comprehensive Development Plans (CDPs) which can be made more cohesive and cost-effective.

3
**Developing local opportunities for 'Blue Carbon' partnerships**
LGUs in coastal areas have a window of opportunity to align with the government's 'Blue Carbon' initiative as a basis to develop private sector EbA partnerships. The Philippines' Blue Carbon Initiative is a government strategy to strengthen its climate plans with nature-based solutions through the protection of coastal wetlands. A focal point for this initiative is the Municipality of Del Carmen, Surigao del Norte. The government's Blue Carbon Roadmap should include a focus area on private sector partnerships with LGUs, which in turn can be supported by a future Climate Resilience Lab envisioned for AIM in selected LGUs and coastal ecosystems.

4
**A private sector partnership agenda for the Department of Disaster Resilience (DDR)**
The new Department of Disaster Resilience (DDR), which the government has envisioned as combining regulatory and service delivery functions and resources for disaster-risk and vulnerability reduction and management, should consider developing a private sector partnership facility, and in particular promote EbA partnerships as a tool for risk minimisation and resilience preparedness.

## Endnotes


1 Massel, Stanislaw & Furukawa, K & Brinkman, Richard. (2009). Surface wave propagation in mangrove forests. Fluid Dynamics Research. 24. 219.
2 Ecosystem-based Approaches to Climate Change Adaptation', IUCN, 2017.
3 'Nature Conservancy pilots insurance fund for coastal resilience', Artemis, July 2017.
4 'Demonstrating the value of natural and nature based defenses: 5 steps for assessing coastal habitats', CH2M, September 2017.
5 'Financing Natural Infrastructure for Coastal Flood Damage Reduction', Lloyd's Tercentenary Research Foundation, 2017.
6 'Valuing Protective Services of Mangroves in the Philippines: Technical report', World Bank, 2017.
7 'Nature-based tourism in the Coral Triangle', WWF, 2015.
8 'Back to our roots: Leading a Philippine ecological revolution with native trees', Ayala Land, 23 August 2016.
9 'Transformational Business: Philippine Business Contribution to the United Nations Sustainable Development Goals', PBE & UNDP, 2017.
10 'The Fourth PH-EITI Report: Moving beyond transparency', EITI Philippines & PWC, 2017.
11 'Nongovernment Reforestation in the Philippines', Philippine Institute of Development Studies, January 2016.
12 'National Resilience Council', Romulo, R., The Philippine Star, 17 August 2017.
13 'Transformational Business: Philippine Business Contribution to the United Nations Sustainable Development Goals', PBE & UNDP, 2017.
14 'Coconut Oil Production by Country in 1000 MT', Indexmundi, 2017. www.indexmundi.com (accessed 4 September 2017).
15 'Gov't allocates P19 billion to combat El Niño', GMA News, 28 December 2015.
16 'UNISDR Champion tackles land degradation in the Philippines', McClean, D., UNISDR, 30 August 2013.
17 'Climate Change and Forest Ecosystems in the Philippines: Vulnerability, Adaptation and Mitigation', Lasco et al, Journal of Environmental Science and Management (11) 2008.
18 'El Niño farm damage rises to P4B', Domingo, R.W., The Philippine Daily Inquirer, 20 February 2016.
19 'Fishery and Aquaculture Country Profiles: The Republic of the Philippines', FAO. http://www.fao.org/fishery/facp/ PHL/ en (accessed 10 October 2017).
20 'Assessing vulnerability of fisheries in the Philippines to Climate Change Impacts', de Ramos, R., University of the Philippines Diliman, March 2015.
21 'Degradation of the Ecosystem in the Philippines', Smith, C., Sciencing, 24 April 2017.
22 'PHL fisheries to decline by up to 50% by 2050 due to climate change — researchers', Anonuevo, M., GMR News, 11 November 2016.
23 'The Report: Philippines 2016 Economic Snapshot', Oxford Business Group, 2016.
24 'Mighty Mangroves of the Philippines: Valuing Wetland Benefits for Risk Reduction & Conservation', Beck, M., 9 May 2017.
25 'Typhoon insurance claims may hit P15 billion', Agcaoili, L., The Philippine Star, 22 October 2009.
26 Lloyds City Risk Index. https://www. lloyds.com/cityriskindex/ locations/city/ manila (accessed 20 November 2017).
27 'Philippines aims for 'golden age of infrastructure', Agence France-Presse, The Philippine Daily Inquirer, 8 March 2017.
28 'Typhoons Ondoy and Pepeng: PostDisaster Needs Assessment', Public Reconstruction Commission Philippines, 2010.
29 'Mindanao power shortage back as hydropower sources dry up', The Philippine Daily Inquirer, 6 November 2015.
30 'Water crisis looms in Metro Manila', Cabacungan, G.C., The Philippine Daily Inquirer, 1 November 2016.
31 'World Energy Perspectives: The road to resilience 2016', World Energy Council, 2016.
32 'Financing Natural Infrastructure for Coastal Flood Damage Reduction', Lloyd's Tercentenary Research Foundation, 2017.
33 'The Report: The Philippines 2017', Oxford Business Group, 2017.
34 'Transformational Business: Philippine Business Contribution to the United Nations Sustainable Development Goals', PBE & UNDP, 2017.
35 'Insuring climate and disaster resilience: Innovations and solutions for sustainable development', Principles for Sustainable Insurance & Philippine Insurers and Reinsurers Association, 7 September 2016.
36 'A Guide for Public-Sector Resilience Bond Sponsorship', re:focus partners, 2017.
37 'Insurance sector help sought to address loss and damage from climate change', Climate Change Commission, 9 September 2016.
38 'Liquidity Constraints and Deforestation: The Limitations of Payments for Ecosystem Services', Jayachandran, S., May 2013.
39 'The global status and trends of Payments for Ecosystem Services', Salzman et al, Nature Sustainability (1) 2018.
40 'Capitalising Conservation: How conservation organisations can engage with investors to mobilise capital', Clarmondial, 2017.
41 '2016 Annual Report', Watershed Management Department of the National Power Corporation, 2016.
42 'Nestlé, WWF, DENR, and MWSS partner to help sustain water for the Metro', Nestle, 2017.
43 'Philippines Financial Needs Assessment', Biodiversity Finance Initiative, November 2015.
44 Biodiversity Finance Initiative. http://www.biodiversityfinance.net/ philippines (accessed 14 February 2018).
45 'Building skills to rebuild communities in the Philippines', Acted, October 2014.
46 'Occupational and Skills Needs in the Green Building' Cruz de la Cruz, C., March 2011.
47 'Innovative Solutions for Climate Change Need More than Money', Speicher, J., Stanford Social Innovation Review, 28 July 2017.
48 'Philippines gets new startup incubator to promote inclusive innovation', Noda III, T., Deal Street Asia, 8 June 2016.

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Earth Security Group is a strategic advisory and partnership development agency working with the private sector, governments and other stakeholders to develop innovative strategies and drive private-public collaborations for climate resilience and sustainable development.

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