

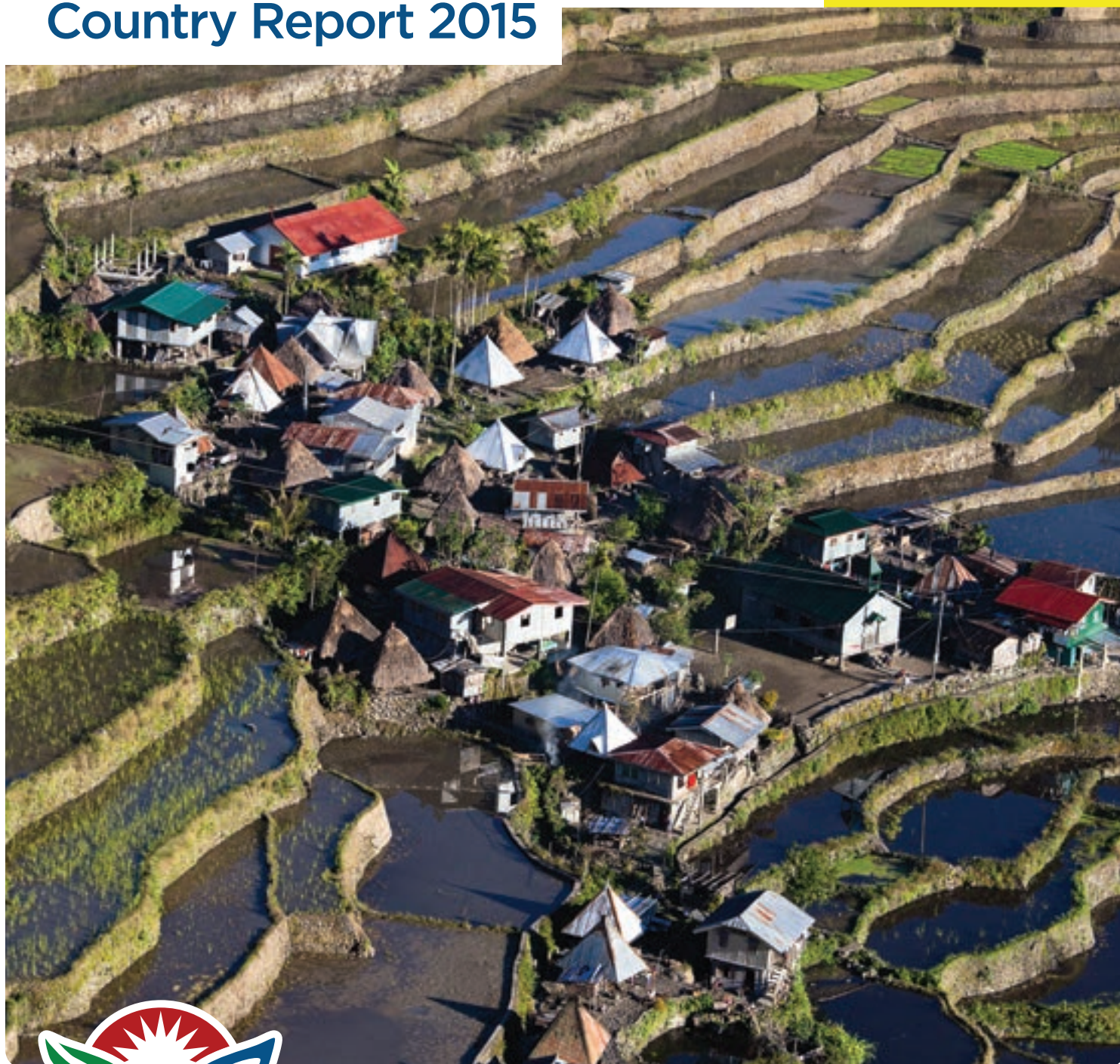


WAVES  
Country Report  
Philippines  
June 2015



Wealth Accounting and Valuation of Ecosystem Services (WAVES)

# Philippines Country Report 2015



WAVES

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Wealth Accounting and the  
Valuation of Ecosystem Services



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### **WAVES - Global Partnership for Wealth Accounting and Valuation of Ecosystem Services**

Wealth Accounting and Valuation of Ecosystem Services (WAVES) is a global partnership led by the World Bank that aims to promote sustainable development by mainstreaming natural capital in development planning and national economic accounting systems, based on the System of Environmental-Economic Accounting (SEEA). The WAVES global partnership ([www.wavespartnership.org](http://www.wavespartnership.org)) brings together a broad coalition of governments, UN agencies, nongovernment organizations and academics for this purpose. WAVES core implementing countries include developing countries—Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines and Rwanda—all working to establish natural capital accounts. WAVES also partners with UN agencies—UNEP, UNDP, and the UN Statistical Commission—that are helping to implement natural capital accounting. WAVES is funded by a multi-donor trust fund and is overseen by a steering committee. WAVES donors include—Denmark, the European Commission, France, Germany, Japan, The Netherlands, Norway, Switzerland, and the United Kingdom.

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## 1| Global WAVES and Philippines WAVES (Phil-WAVES)

Wealth Accounting and Valuation of Ecosystem Services (WAVES) is a global partnership led by the World Bank that aims to promote sustainable development by mainstreaming natural capital in development planning and national economic accounting systems, based on the United Nation's System of Environmental-Economic Accounting 2012 (UN-SEEA 2012). The WAVES global partnership ([www.wavespartnership.org](http://www.wavespartnership.org)) brings together a broad coalition of governments, UN agencies, non-government organizations (NGO), and academics for this purpose.

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Past attempts to institutionalize NCA—both globally and in the Philippines—have not been entirely successful due to the lack of a clear policy link, disagreements on methodology, lack of global leadership, and limited capacity and resources. The WAVES global partnership program tries to tackle these issues by helping countries adopt and implement natural capital accounts that are relevant for their policy priorities and using a universally accepted standard—SEEA.

The Philippines was identified as one of the pilot countries for WAVES for several reasons. There is a high government demand for indicators, tools, and methodologies that will help determine the sustainable use of natural resources and inform development planning and policy analysis. Also, a more sustainable use of natural resources potentially could have a large impact on the poor and thus economic growth, as the incidence of poverty is particularly high among natural resource-dependent sectors. Finally, the government of the Philippines has a high latent capacity in NCA from previous initiatives,<sup>1</sup> while academic and private organizations have the necessary skills for ecosystem accounting.

## 2| Macroeconomic and Environmental Context in the Philippines

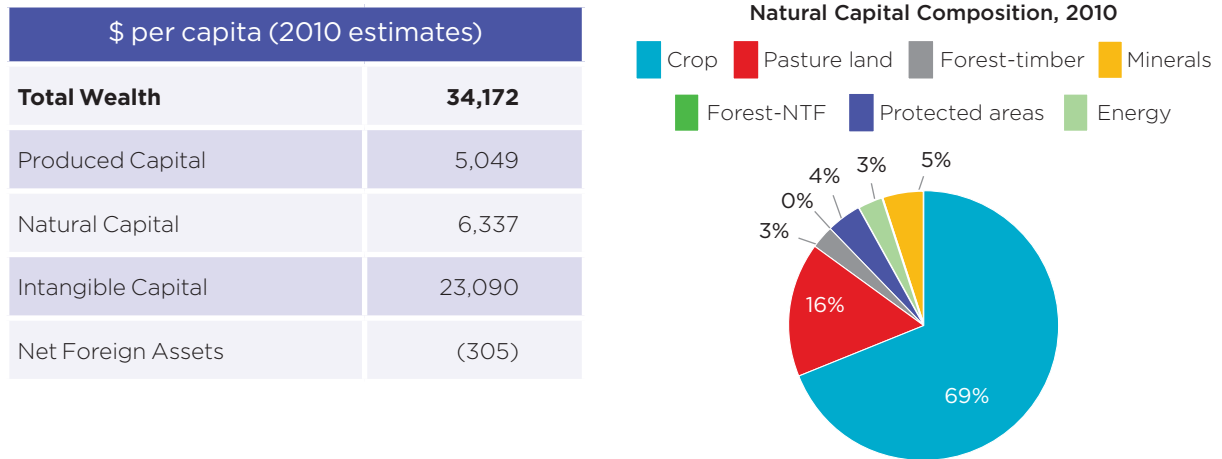
The implementation of NCA in the Philippines is well timed. The current administration emphasizes governance reforms that include transparent and science-based decision making, while pursuing sustainable, inclusive, and resilient growth. Approaches such as NCA, market-based instruments,

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<sup>1</sup> The two major Philippine initiatives in environmental accounting were the Environmental and Natural Resources Accounting Project (ENRAP) and the Philippine Economic-Environmental and Natural Resources Accounting (PEENRA) Project. Both started in the 1990s and continued to about 2000. ENRAP was led by the Department of Environment and Natural Resources, funded by USAID, and adopted the Henry Peskin approach to environmental accounting, focusing on data use for public policy. PEENRA, which started later, was implemented by the National Statistical Coordination Board, which used the SEEA framework for environmental accounting, with the UN providing financial and technical support.



**Figure 1.** Wealth of the Philippines (\$ per capita, 2010 estimates)



Source: World Bank interim estimates, 2014.

environmental valuation, and payments for ecosystem services—which are mentioned in the 2011–2016 Philippine Development Plan (PDP) and the National Climate Change Action Plan (NCCAP)—would be facilitated by the regular production of SEEA modules.

The results of the policy analysis and recommendations from the Phil-WAVES accounts will provide solid understanding of how the government can address policy issues like effective management of competing and overlapping claims on the country’s natural resources. Moreover, these results can inform the government strategies and programs that could be considered in the development of the next Philippine Development Plan (PDP).

Initial estimates suggest that natural capital accounts for about 15 percent of the Philippines’ total wealth in 2010 (World Bank, forthcoming).<sup>2</sup> As indicated in Figure 1, agricultural land accounts for the highest proportion, followed by pasture land, subsoil assets, and minerals.

The 2011–2016 PDP Medium Term Update continues to recognize the importance of natural capital for reaching the objective of inclusive growth. As can be seen in Table 1, agriculture, forestry, and fishing accounted for about a third of employment in the Philippines in 2014. Nonetheless, the poverty incidence is particularly high among the natural resource-dependent sectors, reaching 36.7 percent in 2009 (Philippine Statistics Authority; 2012a). The poverty data for 2012 supports this finding, as the poorest provinces have the largest share of rural population (Philippine Statistics Authority 2013) and hence are dependent on natural resources, while the richest provinces are the most urbanized (Philippine Statistics Authority 2010).<sup>3</sup> Significant action is necessary to halt the deterioration of the country’s environment and natural resources, which is likely to be exacerbated by strong demographic pressures and the country’s natural vulnerability to climate change.

<sup>2</sup> Based on an initial analysis that includes agricultural land (crop land and pasture), forest land (timber and non-timber forest products), protected areas, minerals, and energy.

<sup>3</sup> The three poorest regions in 2012 (ARMM, Region VIII, and Region XII) had an average poverty incidence of 49 percent (Philippine Statistics Authority; 2013) but an average urbanization level of only 23 percent (2010 data; Philippine Statistics Authority; 2013), while the three richest regions in 2012 (Region III, Region IV-A, and NCR) had an average poverty incidence of 9 percent and average urbanization level of 70 percent.

**Table 1.** Employment by Sector, 2014

Employment by Sector	In Thousand Persons	As Percent of Total
<b>All Sectors</b>	<b>37,310</b>	<b>100.0%</b>
<b>Agriculture</b>	<b>11,212</b>	<b>30.1%</b>
Agriculture, Hunting, and Forestry	9,942	26.6%
Fishing	1,269	3.4%
<b>Industry</b>	<b>5,987</b>	<b>16%</b>
Mining and Quarrying	229	0.6%
<b>Services</b>	<b>20,112</b>	<b>53.9%</b>

Source: Philippine Statistics Authority, Labor Force Survey

Note: The annual estimates for 2013 and 2014 exclude Region VIII or Eastern Visayas

**Agricultural land:** From 2004–2010, the average growth rate of the agricultural sector, including fishery and forestry, was 2.6 percent. The sector’s average gross domestic product (GDP) share was 12.8 percent for the same period and it accounted for 30.1 percent of total employment in 2014. This average growth rate slowed to 2.1 percent in 2010–2014, mainly due to a series of climate-related disasters, particularly the devastating Typhoon Yolanda in 2013 (Philippine Statistics Authority; 2012b and 2014). However, in 2013 the agricultural sector still made up 10.4 percent of GDP and accounted for 31 percent of total employment.<sup>4</sup> Key issues identified in the agricultural sector were vulnerability to climate change and disaster risk, plus the conversion of agricultural land to other uses, resulting in declining productivity and competitiveness, an increase in food commodity prices, a stagnant poverty headcount, inadequate support services,

and unsustainable resource utilization (National Economic and Development Authority 2011 and 2012). Future increases in agricultural productivity and food security are further hampered by a limited irrigation system—merely 55.6 percent of *total irrigable areas were serviced by irrigation* in 2013 (Philippine Statistics Authority 2013)—and extensive land degradation, due to the expansion of grazing lands, slash-and-burn practices, and deforestation of watershed areas.

**Forests:** The country’s forest resources, which officially make up about 53 percent of the country’s total land area,<sup>5</sup> are increasingly under pressure. Based on the 2010 Philippine Land Cover by the National Mapping and Resource Information Authority (NAMRIA), the total forest cover of the Philippines is estimated at 6.840<sup>6</sup> million hectares (22.8% of the total land area of the Philippines). The main drivers of deforestation and forest degradation include gathering of fuel wood for cooking and charcoal making, slash-and-burn practices, upland agricultural cultivation, and illegal logging. The increase in the rural population—due to high fertility rates, the dependence on shifting cultivation, and rural poverty—has placed further stress on forest resources.

**Coastal and marine resources:** The Philippines has some of the richest marine biodiversity in the world. Overall, its marine waters hold more than 500 species of stony or scleractinian corals, 12 of which are endemic, in addition to more than 2,724 species of marine fish, about 42 species of

<sup>4</sup> The employment share is an average of the National Statistics Office figures for January, April, July, and October of 2013 (National Statistics Office 2014).

<sup>5</sup> This figure includes both classified forest land (50.2 percent) and unclassified forest land (2.5 percent) (Department of Environment and Natural Resources 2012).

<sup>6</sup> 6.840 million hectares consist of: open forest, 4.595 million hectares; closed forest, 1.934 million hectares, and mangrove forest, 0.311 million hectares.



mangrove, and 16 species of sea grass (State of the Coral Triangle Report-Philippines 2012). With these abundant fisheries and marine resources, the Philippines' fisheries sector contributes significantly to fisheries output nationally and worldwide. However, the fisheries sector has been facing key development challenges over the years, due to unsustainable use and management of its resources, resulting in an overall decline in fisheries productivity. These unsustainable practices include the loss of critical coastal habitat due to the conversion of mangroves to aquaculture and settlement; timber cutting for fuel and housing materials; and the degradation of coral reefs due to overfishing and destructive practices.

**Water supply:** Due to rapid population increase, urbanization, and economic growth, the demand for water has also been increasing. New water sources must be identified to address the increasing demand for water by residential, commercial, and industrial users, especially in industrial areas and highly urbanized cities. As a consequence, at least nine major urban centers are experiencing water stress, and per capita water availability in the Philippines is the second lowest among Southeast Asian countries (National Water Resources Board 2006). In addition, some areas suffer devastating floods during the wet season, while many areas experience water shortages during the dry season. The latter can lead to massive crop failures and as experienced after the 1997–1998 ENSO events of temperature variations in the tropical eastern Pacific Ocean (Cruz et al. 2007). Climate change will further aggravate these impacts, with more than 40 percent of the 70 provinces, including metropolitan Manila, predicted to have 20 percent to 40 percent less precipitation during the summer months (Philippine Atmospheric, Geophysical, and Astronomical Services Administration 2011).

**Water quality:** Since surface water is more abundant than groundwater in the Philippines, ideally most of the potable water should be sourced from surface water. However, only about 36 percent of the river systems and surface water areas are potential sources for drinking water, with the remaining 64 percent unfit for drinking even after complete treatment. Given the low sewage cover—an average of 4 percent in urban areas and 8 percent in metropolitan Manila (National Water Resources Board 2006)—discharge of inadequately treated domestic sewage is a major contributor to pollution of surface waters. Furthermore, aquatic ecosystems are threatened by this poor water quality.

**Minerals:** The Philippines is ranked 5<sup>th</sup> as most mineralized country in the world.<sup>7</sup> About 39 percent (11,551,884 hectares) of the country's total land area has been identified as having high mineral potential by the Mines and Geosciences Bureau (MGB).<sup>8</sup> Notwithstanding, the contribution of the mining sector to GDP between 2010 and 2013 accounts for only an average of 1.1 percent (Philippine Statistics Authority; 2012 and 2014). Therefore, questions are frequently raised about the mining industry's benefits to the country as measured through payment of various taxes, (i.e., excise taxes and royalties, income taxes) and other non-tax incentives.

The Mining Industry Coordinating Council (MICC) has developed the go and no-go zone map for mining activities. Also, reforms in regulations and implementation of mining in the country were instituted to address social and environmental concerns. There is an on-going deliberation on the proposed new fiscal regime and revenue arrangement between the government and the mining contractors, the benefit-sharing options for the indigenous peoples and local communities, and the associated environmental and social cost of mining activities.

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<sup>7</sup> <http://www.denr.gov.ph/index.php/component/content/article/16.html>. Last accessed on 26 March 2014.

<sup>8</sup> Based on MICC No Go Zone map, 2013.

**Climate change:** According to a World Risk Report,<sup>9</sup> the Philippines has been ranked as the second most vulnerable country in the world to disaster risk from weather-related extreme events, earthquakes, and sea level rise (Alliance Development Works 2014). Reports showed that significant warming will occur in the Philippines with the expected mean temperature to rise by 1.5 to 2.6 degree Celsius over the coming 50 years (Second National Communication Report 2014).<sup>10</sup> In addition, a reduction in rainfall is expected in most parts of the country from March to May, and greater rainfall during the monsoon season of June to August, and September to November. Sea-level rise will have further adverse impacts on coastal areas.

The Philippines has formulated framework strategies and actions towards climate change adaptation and mitigation, as espoused in the 2011-2028 National Climate Change Action Plan (NCCAP). Since the Philippines is an insignificant emitter of greenhouse gases, the country puts greater emphasis on adaptation with mitigation co-benefits as the strategy to manage risks and adjust economic activities to reduce vulnerability.<sup>11</sup>

During preparation for WAVES, feasibility studies reviewed the past NCA experience in the Philippines and assessed the current capacity and institutional support for SEEA. In addition, the feasibility of NCA for minerals, soils, land, water, forests, fisheries, and coastal and marine resources was assessed. These efforts were complemented by workshops and meetings with officials from policy, planning, and statistics offices to identify policy priorities.

The feasibility studies and stakeholder consultations concluded that there is a long list of policy issues that could be addressed by WAVES technical assistance (TA) (summarized in Table 2). Out of the long list of potential policy issues, minerals, mangroves, and water resources were prioritized for Phil-WAVES. The main reasons were that these issues (1) urgently needed policy inputs; (2) had the potential to make a big impact on poverty and economic growth; and (3) complemented other initiatives by the World Bank, the Government of the Philippines, and development partners.

### 3| Policy Objectives of Phil-WAVES

The objective of the Phil-WAVES TA is to inform development planning and policy analysis on the sustainable use of key natural resources.

#### **Policy Objective 1: Developing macroeconomic indicators that account for natural capital values, to measure the sustainability of economic development**

***Output: new macroeconomic indicators that integrate natural resource values and are complementary with existing indicators are developed to guide and facilitate monitoring of sustainable development.***

The Philippine System of National Accounts (SNA) and macroeconomic indicators make scant reference to natural capital values. In fact, there has not been comprehensive NCA at the national

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<sup>9</sup> This ranking is based on the 2014 World Risk Index, which was developed by the United Nations Institute for Environment (UNU-EHS) in cooperation with the Alliance Development Works. It assesses a country's disaster risk by combining four components: exposure to natural hazards (i.e., earthquakes, storms, floods, droughts, and sea-level rise), susceptibility, coping capacity, and adaptive capacity.

<sup>10</sup> Second National Communications to the UNFCCC, last accessed at <http://unfccc.int/resource/docs/natc/phlnc2.pdf>, 26 March 2015.

<sup>11</sup> NCCAP. Last accessed at [http://adaptationmarketplace.org/data/librarydocuments/NCCAP\\_TechDoc.pdf](http://adaptationmarketplace.org/data/librarydocuments/NCCAP_TechDoc.pdf) on 26 March 2015.

**Table 2.** Policy Issues for a Long-Term WAVES Program in the Philippines

Sector	Economic & Social Policy Issue	Environmental Concerns
<b>A. Sectors to be Funded by Phil-WAVES (2013–2017)</b>		
Minerals	<ul style="list-style-type: none"> <li>• Sustaining income from resource rents</li> <li>• Increasing benefits for indigenous peoples &amp; local communities</li> <li>• Allowing mining activities only in the identified go zones</li> </ul>	<ul style="list-style-type: none"> <li>• Mitigating environmental damages</li> <li>• Increasing water-use efficiency</li> <li>• Rehabilitating post-mining</li> <li>• Building credible data &amp; information</li> </ul>
Mangroves <sup>a</sup>	<ul style="list-style-type: none"> <li>• Resolving competition among user groups</li> <li>• Increasing tourism benefits for the poor</li> <li>• Effectively &amp; efficiently rehabilitating mangroves</li> </ul>	<ul style="list-style-type: none"> <li>• Reversing degradation &amp; scaling up conservation</li> <li>• Valuing mangrove protection</li> <li>• Valuing sustainable marine-based economy</li> </ul>
Cross-cutting issues	<ul style="list-style-type: none"> <li>• Resolving competing uses through institutional &amp; pricing reforms</li> <li>• Generating employment, income, &amp; local benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing environmental impacts</li> <li>• Reducing vulnerability to climate risk &amp; geo-hazards</li> </ul>
Site case studies on ecosystem accounting	<ul style="list-style-type: none"> <li>• <b>Southern Palawan:</b> competing uses of land &amp; coastal and marine areas; equitable access to ecosystem benefits</li> </ul>	<ul style="list-style-type: none"> <li>• Development of methodology</li> <li>• Mitigation of environmental damage</li> <li>• Increased water-use efficiency</li> <li>• Post-mining rehabilitation</li> <li>• Local benefit sharing</li> <li>• Climate risk</li> </ul>
	<ul style="list-style-type: none"> <li>• <i>Laguna Lake basin:</i> water &amp; habitat ecosystem; update of fee on water abstracted for consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Water supply</li> <li>• Pollution</li> <li>• Sedimentation</li> <li>• Other economic values associated with fisheries, recreation, waste assimilation, flood control, health impacts, &amp; habitat</li> </ul>
<b>B. Sectors Recommended for Funding by Other Sources</b>		
Agricultural land	<ul style="list-style-type: none"> <li>• Attaining food security amid climate risk</li> <li>• Addressing agricultural land conversion</li> <li>• Increasing productivity &amp; competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Scaling up sustainable land management</li> <li>• Increasing water efficiency</li> <li>• Adapting to climate change</li> </ul>
Fisheries	<ul style="list-style-type: none"> <li>• Reducing fishing effort &amp; increasing benefits among local fishers</li> <li>• Resolving competition among user groups</li> <li>• Increasing tourism benefits for the poor</li> <li>• Financing marine Protected Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Reversing degradation</li> <li>• Scaling up conservation</li> </ul>
Forest land	<ul style="list-style-type: none"> <li>• Resolving competing forest land uses</li> <li>• Developing competitive &amp; sustainable forest industries</li> <li>• Increasing benefits for indigenous peoples &amp; upland communities</li> <li>• Sustainably financing Protected Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Reversing deforestation &amp; scaling up conservation</li> <li>• Protecting downstream water supply</li> <li>• Protecting biodiversity-rich areas</li> <li>• Increasing carbon sequestration</li> </ul>

(continued on next page)

**Table 2.** Policy Issues for a Long-Term WAVES Program in the Philippines (*continued*)

Sector	Economic & Social Policy Issue	Environmental Concerns
Water	<ul style="list-style-type: none"> <li>• Resolving competing uses</li> <li>• Pricing scarce water</li> <li>• Financing watershed management</li> <li>• Integrated water resources management</li> </ul>	<ul style="list-style-type: none"> <li>• Reducing pollution</li> <li>• Address flooding &amp; sewerage infrastructure gap</li> <li>• Adapting to climate change</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>• Increasing benefits for the poor &amp; the local economy</li> <li>• Resolving competing ecosystem uses</li> <li>• Increasing competitiveness</li> <li>• Meeting the infrastructure &amp; skills gaps</li> </ul>	<ul style="list-style-type: none"> <li>• Managing environmental impacts</li> <li>• Adapting to climate change</li> </ul>
Energy	<ul style="list-style-type: none"> <li>• Improve balance and efficiency of renewable-nonrenewable energy mix</li> <li>• Lowering cost</li> <li>• Improving pricing without hurting the poor</li> <li>• Reducing health impacts of emissions</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring responsible geothermal energy in protected areas</li> <li>• Sustaining hydropower</li> <li>• Adapting to climate change</li> </ul>

<sup>a</sup> Since the 1<sup>st</sup> meeting of the Phil-WAVES Steering Committee (PWSC) on 26 July 2013, the mangrove accounts have been agreed upon for consideration. Series of meetings and discussions have started for scoping of available data in the development of mangrove accounts. This will help assess the feasibility and utility of developing the accounts in terms of data availability and support from Phil-WAVES partners.

scale during the last decade due to a failure to fully institutionalize the donor-funded NCA initiatives implemented in the 1990s. Yet with growing environmental awareness and concerns, there is now heightened demand from government, NGO, civil society, and the private sector for NCA to aid science-based and evidence-based policymaking. A priority activity for WAVES will be to undertake a comprehensive review of the System of National Accounts that evaluates the current situation and makes concrete recommendations for its improvement by future integration of natural resource issues.

Progressive inclusion of natural capital values in the SNA, from selected SEEA modules and the development of macroeconomic indicators, will improve the country's ability to monitor the sustainability of its economic development and manage key natural resource-based sectors. For the purposes of WAVES activities, the focus will be on developing new, complementary macroeconomic indicators, including adjusted net savings, adjusted net national income, produced capital, and comprehensive wealth. A progressive approach will be applied to the development of these macroeconomic indicators. In the short term, existing preliminary estimates prepared by the World Bank (WB) will be refined and adjusted using available

The proposed WAVES activities in the Philippines related to this policy objective are:

- Technical evaluation of the System of National Accounts and recommendations for improving the integration of natural capital into that system; and
- Continued incremental improvement of macroeconomic indicators (adjusted net savings, adjusted net national income, produced capital and comprehensive wealth) throughout WAVES, including mining sector and mangrove accounts that are generated through other WAVES components.

country-specific data. In the medium to long term, the outcomes of the selected SEEA modules will be progressively included to further refine the indicators. Technical activities will be complemented by capacity building, both in the development and maintenance of these indicators, as well as in their use and interpretation.

**Policy Objective 2: Developing national accounts for prioritized natural resources—minerals and mangroves<sup>12</sup>—based on the UN’s SEEA 2012, and analyzing the impact of different natural resource management and revenue-sharing scenarios on income and economic development**

**3.1| Minerals**

- ***Output: information on the value of subsoil assets is generated, to contribute to medium- to long-term policy dialogue on rent recovery, distribution, and reinvestment.***
- ***Output: information on the value of ecosystem services associated with terrestrial as well as coastal and marine resources in Southern Palawan is generated, under different resource-use scenarios, to contribute to local medium- and long-term development planning and sustainable management.***

Minerals were prioritized for Phil-WAVES because there is a strong demand from the Philippines’ National Economic and Development Authority (NEDA), Department of Environment and Natural Resources (DENR), and Climate Change Commission (CCC) to develop tools and indicators for sustainably managing mineral resources and the adverse impacts of climate change on the mineral areas. In fact, Section 15 of Executive Order 79 on institutionalizing and reforming the Philippine mining sector refers to WAVES as a significant tool for conducting resource accounting and cost-benefit analyses. In addition, minerals could potentially have a large impact on economic growth. However, the minerals sector is highly contentious in the Philippines.

Phil-WAVES can inform this debate by constructing, updating, and refining mineral accounts at the national level. This will allow the government to determine whether resource rents have been reinvested and to compare mineral rents with environmental degradation based on different market conditions, investment incentives, and governance structures. Revenue allocation between national and local governments and benefits sharing with local communities and indigenous people will also be studied.

In addition, Phil-WAVES will test and develop tools and methodologies for an ecosystem account in Southern Palawan, which is considered to be highly mineralized. However, mining is not allowed in environmentally critical and sensitive areas declared as Core and Restricted Zones under the nationally legislated Strategic Environmental Plan for Palawan Act, and mining activities are often in direct conflict with existing or proposed protected areas, as well as ancestral domains. In fact, Southern Palawan is characterized by high levels of biodiversity and extensive mangroves and fisheries and thus has a large potential for conservation and tourism, which could be put at risk by minerals exploitation. There is also a potential to further develop commercial agriculture, including rice, coconut and oil palm. A comprehensive investigation taking into account all the ecosystem services and their management structures is thus necessary, covering below- and above-ground natural, coastal, and marine resources. This work will be closely coordinated with the Philippine Statistics Authority (PSA) to ensure the information can be incorporated into the national-level mineral accounts.

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<sup>12</sup> Mangrove accounts still subject to the result of the rapid assessment to be conducted in May 2015.

The proposed WAVES activities in the Philippines related to this policy objective are:

**National Mineral Accounts**

- Development of satellite accounts for the mining sector to feed into macroeconomic indicators, based on the recently adopted SEEA methodology
- Analysis of issues related to rent recovery, distribution, and reinvestment, and their implications for equity and sustainability

**Ecosystem Account for Southern Palawan**

- Development of ecosystem accounts for Southern Palawan using the experimental SEEA methodology
- Analysis of social, economic, and environmental trade-offs of different resource-use scenarios and their implications for sustainable management

These activities will be aligned with other proposed WB initiatives, most notably the Extractive Industries Transparency Initiative (EITI) and Open Data Initiative (ODI). Moreover, complementarities in data collection, analysis, and dissemination exist for the Southern Palawan ecosystem account with the Capturing Coral Reef and Related Ecosystem Services (CCRRES) project.

### 3.2| Mangroves

**Output: information on the value of mangroves and mangrove reforestation is generated to contribute to the medium- to long-term policy dialogue on the benefits of mangroves for coastal zone protection, disaster risk management, fisheries, tourism, and reducing emissions from deforestation and forest degradation (REDD+).**

Mangroves were prioritized for Phil-WAVES because they provide a wide range of ecosystem services closely linked to key government priorities of higher economic growth and climate change resilience, in particular through provisioning (fishing, timber and non-timber products, and tourism) and shoreline and storm-surge protection services. Furthermore, mangrove reforestation has long been a policy priority and is currently being implemented through the National Greening Program, which is planning to (re)plant more than 1.5 billion trees. A policy for the conversion of abandoned fishponds back to mangroves is also being discussed. However, past replanting efforts have been poorly targeted, with survival rates of only 10 percent to 20 percent.

Phil-WAVES will be able to inform this debate by updating and refining mangroves accounts and analyzing their contribution to the income of local communities and enhanced climate change resilience. It will do so both nationally and as part of the Southern Palawan case study, supported by the CCRRES project. Phil-WAVES will also support the country's work on Reducing Emissions from Deforestation and Forest Degradation plus (REDD+), which is supported by Germany's Gesellschaft für Internationale Zusammenarbeit (GIZ). Since mangroves sequester significantly more carbon than terrestrial forests do, providing new data on mangroves will be critical. This analysis will also provide important information for the ongoing dialogue on adaptive capacity for climate change and disaster risk management led by the World Bank.

Given the concern on data availability to develop mangroves accounts, there will be a scoping study to assess the level of information to develop the accounts. This scoping study will help identify measures on how the mangrove accounts will proceed. As minerals are a government priority, the minerals accounts will be constructed in the first two years of project implementation, followed by mangroves accounts in the last two years.<sup>13</sup> The mangroves

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<sup>13</sup> Subject to the result of the scoping study/rapid assessment.



The proposed WAVES activities in the Philippines related to this policy objective are:

- Development of satellite accounts for mangroves to feed into macroeconomic indicators based on the recently adopted SEEA methodology; and
- Analysis of issues related to mangrove reforestation, coastal zone protection, fisheries, tourism, and REDD+.

accounts will only be implemented if the minerals accounts have been constructed and sufficient financial resources and data on mangroves are available.

**Policy Objective 3: Developing and constructing ecosystem accounts for Southern Palawan and the Laguna Lake basin, and analyzing the trade-offs associated with different resource and ecosystem-use scenarios**

***Output: information on the value of ecosystem services associated with the Laguna Lake basin is generated under different resource-use scenarios to contribute to local medium- and long-term development planning and sustainable management, and to generate a water-pricing plan.***

National water accounts cannot be constructed under Phil-WAVES due to their complexity and the program's limited budget. However, the Laguna Lake basin was selected as a case study at the request of the Laguna Lake Development Authority (LLDA). The 1996 Laguna Bay Master Plan is being updated and the development authority is in negotiations for the pricing of abstracted raw water with three water utilities. Both activities should take into consideration wealth accounting and a comprehensive valuation of ecosystem services of various existing uses. In particular, such an evaluation should not only analyze water production costs, but also take into account potential interactions with other basin uses, including habitat for capture and culture fisheries, drainage of a highly urbanized watershed, flood control, pollution from various sources, sedimentation, and potential water demand from metropolitan Manila.

Phil-WAVES can inform this debate by focusing on two key policy issues: pollution and sedimentation. The information to be generated will be crucial in modeling the causal relationships between the quality of the water in Laguna Lake, and the silt and pollutant loads of waters draining into the lake. By integrating land and water management, the LLDA will, for instance, be able to analyze how protecting upper watersheds will reduce siltation, and how reducing pollution loading—including solid waste disposal in the lowland area—will help maintain water quality and the capacity of the lake to act as a buffer and mitigate flood risks in metropolitan Manila. Understanding the monetary component is equally important in order to analyze cost-effective interventions aimed at maintaining—and where possible enhancing—water quality in the lake. The monetary component also is important as an input into potential payment mechanisms for water use, which could lead to sustainable financing of improved water resource management in Laguna Lake.

The proposed WAVES activities in the Philippines related to this policy objective are:

- Development of ecosystem accounts for the Laguna Lake basin, using the experimental SEEA methodology; and
- Analysis of social, economic, and environmental trade-offs of different water-use scenarios and their implications for sustainable management.

## 4| Phil-WAVES workplan

The work plan has been structured around three technical and two cross-cutting components, as shown in Table 2. The total estimated budget for the work plan is \$1.5 million. Annex 1 contains the detailed work plan.

**Table 3.** Summary of Phil-WAVES Work Plan

Component	Policy Objective	Expected Outputs	Estimated Budget (\$)
<b>1. Macroeconomic indicators</b>	Complement existing macroeconomic indicators and guide sustainable development and macroeconomic monitoring	Macroeconomic indicator development and annual revision, including adjusted net savings, adjusted net national income, produced capital, and comprehensive wealth	<b>40,000</b>
<b>2. National satellite account for priority sectors</b>			
<b>2.1 National satellite account for mineral resources</b>	Contribute to medium- to long-term policy dialogue on rent recovery, distribution, and investment	Satellite account development for proven resources in large-scale mining sector, and integration into macroeconomic indicators  Analysis of issues related to rent recovery, distribution, and reinvestment and their implications for equity and sustainability	<b>60,000</b>
<b>2.2 National satellite account for mangroves</b>	Contribute to medium- to long-term policy dialogue on mangrove reforestation, coastal zone protection, fisheries, tourism, and REDD+	Satellite account development for mangroves, and integration into macroeconomic indicators  Analysis of issues related to mangrove reforestation, coastal zone protection, fisheries, tourism, and REDD+	<b>60,000</b>
<b>3. Ecosystem accounts</b>			
<b>3.1. Ecosystem account for Southern Palawan</b>	Contribute to local medium- and long-term development planning and sustainable management	Development of ecosystem account and framework for replication  Analysis of social, economic, and environmental trade-offs of different resource use scenarios and their implications for sustainable management	<b>145,000</b>
<b>3.2. Ecosystem account for Laguna Lake Basin</b>	Contribute to local medium- and long-term development planning and sustainable management, and generate a water-pricing plan	Development of ecosystem account and framework for replication  Analysis of social, economic, and environmental trade-offs of different resource use scenarios and their implications for sustainable management	<b>145,000</b>

(continued on next page)

**Table 3.** Summary of Phil-WAVES Work Plan (continued)

Component	Policy Objective	Expected Outputs	Estimated Budget (\$)
<b>4. Capacity Building and Policy Dialogue (crosscutting)</b>		Technical training for each component, awareness raising and communications activities	<b>650,000</b>
<b>5. Project Management, Coordination, and Oversight (crosscutting)</b>		Operation of steering committee and technical working group  Project management and technical coordination	<b>400,000</b>
<b>TOTAL ESTIMATED BUDGET</b>			<b>1,500,000</b>

## 5| Institutional Arrangements for Implementation of Phil-WAVES

The capacity and institutional assessment during the WAVES preparation phase concluded that the necessary legal and policy framework, government ownership, and capacity to institutionalize SEEA are in place. Furthermore, past initiatives have introduced the concepts underlying WAVES and have thus laid the institutional foundation for its implementation. Resource valuation is also a priority in the 2011–2016 PDP Medium Term Update NCCAP, which explicitly calls for a proper valuation of natural resources as a tool for science-based development planning and policy decisions, as well as climate change adaptation. The lead agency, the NEDA, will be in a good position to advocate for the adoption and institutionalization of WAVES—with support from other government agencies, nongovernmental organizations, and the private sector—because it is primarily responsible for the country’s development blueprint.

To support institutionalization of the selected SEEA modules, Phil-WAVES will (1) provide training for newcomers and previously trained staff; (2) introduce Key Performance Indicators (KPIs) in the medium- and long-term development plans and Organizational Performance Indicator Framework (OPIF); (3) synchronize project activities with the long-term planning processes of the NEDA, Department of Budget and Management (DBM), Department of Finance (DOF), and relevant statistical and sector agencies; (4) rely on government staff and budgetary commitments for the implementation of the selected SEEA modules and the associated policy analysis, in accordance with budgetary rules and policies; and (5) use existing inter-agency committees and technical working groups to involve all relevant government agencies and partner institutions during implementation.

The government has been and will be fully engaged in the preparation, implementation, and follow-up related to this activity. However, given that past NCA initiatives were not fully

institutionalized because of a lack of capacity and resources, the PSA has explicitly requested the Phil-WAVES TA to support the institutionalization of the selected SEEA modules. For this reason, the project is financing activities executed by both the WB and the Government.

The Recipient-Executed Trust Fund (RETF) of \$0.7 million is supporting in-house capacity building at the PSA. This involves hiring four technical staff who are in charge of compiling the natural capital accounts. Their salaries and terms of employment are similar to that of other PSA staffs, thus helping to facilitate their integration into government staff once the project closes. In addition to generating data and indicators, the PSA will also lead SEEA training activities and supporting studies, drawing on local resources where possible. Additional TA will be provided by the Australian Bureau of Statistics (ABS), through financing from Australia's Department of Foreign Affairs and Trade (DFAT). The country coordinator and his/her assistant, housed at the NEDA, are also financed through the RETF, to facilitate project coordination across government agencies.

This work is being complemented by activities financed under the Bank-Executed Trust Fund (BETF) of \$0.8 million, which is focusing on policy analysis at the national and local level. The fund will also finance the development of the ecosystem accounts for Southern Palawan and the Laguna Lake basin and analysis of the trade-offs associated with different resource and ecosystem-use scenarios.

To ensure prompt and smooth implementation, the following institutional arrangements have been made:

- **Steering committee.** The Phil-WAVES steering committee (PWSC) has been established and is meeting regularly. The PWSC is chaired by the NEDA, with the following agencies as members: DBM (vice chair), DOF, PSA, DENR, CCC, Department of Agriculture (DA), Office of the Presidential Advisor on Environmental Protection(OPAEP)/ LLDA, and Union of Local Authorities of the Philippines (ULAP).The steering committee is providing strategic direction and guidance by facilitating implementation; reviewing and approving work plans, progress reports, and Phil-WAVES analysis; and establishing channels for policy dialogue.
- **Lead agency.** The Agriculture, Natural Resource, and Environment staff (ANRES) of the NEDA is leading Phil-WAVES by providing strategic direction and guidance through organizing and providing secretariat and technical support to the PWSC and to the Phil-WAVES partners, respectively. The NEDA created a Phil-WAVES working group through a special order. The ANRES is being assisted by the national country coordinator, whose assistant is in charge of monitoring and coordinating the project. This includes (1) coordinating, facilitating and monitoring the implementation of Phil-WAVES across and within institutions involved in the project to ensure effective and timely delivery of its expected outputs; (2) providing technical and management support to various components of Phil-WAVES, including preparation of annual work plan (AWP) and project reports, planning and policy analysis and implementation of project communication strategy/plan; (3) leading the identification of training needs; (4) reporting regularly to NEDA, World Bank, WAVES global partnership program and Phil-WAVES implementing partners. The National Planning and Policy Staff will lead the macroeconomic policy analysis under Policy Objective 1.
- **Implementation of SEEA:** The PSA is responsible for implementing SEEA by constructing both the macroeconomic indicators and natural capital accounts, and leading the learning among the statistical and source agencies. The SEEA implementation is supported by the Inter-Agency Committee on Environment and Natural Resource Statistics (IAC\_ENRS), which is tapped to (1) oversee the generation of data and indicators; (2) provide technical advice and guidance; (3) ensure quality; (4) ensure that detailed and quality data is made available; and

(5) coordinate and collaborate across government agencies. The Technical Working Group for Minerals is tapped to assist in the development of the mineral accounts. Four technical staff have been hired under the project to assist with SEEA implementation.

- **Policy analysis and ecosystem accounts.** The Foreign-Assisted and Special Projects Office (FASPO) of the DENR will lead the policy analysis for the minerals and mangroves natural capital accounts. Working with the Palawan Council for Sustainable Development (PCSD), the office is also leading the preparation of the ecosystem account of Southern Palawan. TWGs have been set up at both the national and local levels and are effectively coordinating with each other. The FASPO is also providing coordination support by liaising with the NEDA and PSA and coordinating with other department office at national and regional levels. The LLDA is leading the development of ecosystem accounts for the Laguna Lake basin in consultation with the Federation of River Basin Councils (FRBC). Each activity is being supported by a team of experts and receives policy advice and guidance from relevant sector and government agencies and local government units (LGUs).
- **The World Bank.** The Bank team is supporting the NEDA and other Phil-WAVES implementing agencies by (1) providing the necessary technical and policy advice and support as needed; (2) liaising with the government, key national and international stakeholders, and the WAVES global partnership program; (3) monitoring and reporting on the work plan and budget; and (4) managing all the consultant contracts and the Bank-Executed Trust Fund.

## 6| Progress of Implementation and Next Steps

### 6.1| Progress

**RETF and BETF:** The concept note for the Phil-WAVES project was reviewed and approved by the government and the World Bank on February 7, 2013. The BETF, managed by the WB, has been set up and is supporting the development of the ecosystem accounts, with considerable counterpart funding from the DENR and the LLDA. On the other hand, the RETF was signed by the Government on April 25, 2014 and released to the PSA on September 16, 2014. With the support of the RETF, PSA and NEDA procured the services of the technical staff and country coordinator and the project assistant between the months of July and September 2014.

**Mineral accounts:** As early as 2013, the PSA started the work on mineral accounts for gold, copper, nickel and chromium through the small working group for minerals, composed of PSA, Mines and Geosciences Bureau (MGB) and NEDA. Initial work on the development of the accounts includes the review, collection and validation of mineral data, finalization of the list of indicators and reporting procedures, and localization of the classification system on mineral resources based on the 2009 UNFC for Fossil Energy and Mineral Reserves and Resources (UNFC-2009).<sup>14</sup>

As of December 2014, the PSA was able to produce the initial estimates in physical terms for the four minerals covering the accounting period from 2000 to 2012, based on the localized classification criteria of UNFC-2009, in close collaboration with the Mines and Geosciences Bureau and the support of the four technical staff hired under the RETF.

The first validation workshop was conducted in mid-February 2015. The mineral asset accounts will now be further refined with a second validation workshop planned in the second quarter of 2015, followed by consultation workshops with the private sector and general public.

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<sup>14</sup> This classification system is different from the classification system being used by the Mines and Geoscience Bureau, which is based on the Codes and Standards set by the Committee for Mineral Reserves International Reporting Standards

**Mangrove accounts:** A series of discussions was conducted with concerned government agencies to determine the feasibility of compiling mangrove accounts. Initial discussions were focused on the availability and source of mangrove data to construct the asset accounts, and on the possibility of extending the mangrove account to model key ecosystem services (i.e., coastal zone protection services).

The PSA has already started a data availability and gap assessment for mangrove accounts.

**Ecosystem accounts:** Activities for the development of ecosystem accounts in the Philippines kicked off in August 2013 with a series of public consultations. These involved various stakeholders from the national and local government, private sector, local communities, indigenous peoples, civil society, and academia. The workshops helped stakeholders to identify—and agree on—the key policy issues for developing ecosystem accounts. The issues to be addressed by the accounts in the Laguna Lake are siltation/sedimentation and pollution. In Southern Palawan, the accounts aim to address conflicting land uses.

To facilitate the development of accounts, scoping visits were conducted around the Laguna Lake and Southern Palawan in February 2014. In particular, the TWGs visited a mining area, a palm oil plantation, a power plant, an ecopark, and a water treatment facility. They also met with Indigenous Peoples (IPs) and non-IPs belonging to a community of rice farmers, and visited a model coconut farm and the Palawan tribal center. A series of meetings and workshops was conducted to develop the ecosystem accounts. The TWGs were supported by a team of national and international consultants as well as TA from the ABS and European Space Agency (ESA). The list of final ecosystem accounts was identified in September 2014. For Laguna Lake, this includes: (i) a land account containing land cover and changes; (ii) an ecosystem condition account indicating various water quality indicators, soil types and elevation, changes in bathymetry and sediment loading; (iii) an ecosystem production account indicating flows of ecosystem services such as fishery production, water supply, flood retention, and soil erosion regulation; and (iv) an ecosystem asset account focusing on water and fish stock. On the other hand, accounts for the Pulot sub-watershed in Southern Palawan consist of: i) land cover accounts by class and ownership; ii) ecosystem condition accounts for terrestrial carbon sequestration, model of erosion control, and water regulation services, including coastal services provided by seagrass, reefs and mangroves; and iii) ecosystem production accounts for crops in the lowlands.

To further provide intensive support to the TWGs, a series of video conferences (VCs) with the TWGs was conducted by the ABS from October to December 2014. The activities included discussion on current progress, technical and/or data issues and next steps. Preliminary results are now available and are providing important information on trends affecting ecosystems, with important policy implications. For example, in the case of Southern Palawan, the ecosystem accounts are providing insights into the prominent land use changes over the last decade and their impact on other uses, most notably agriculture and marine resources. For the Laguna Lake basin, the ecosystem accounts are illustrating how forest cover could potentially affect the sedimentation and siltation of the lake, and ultimately flooding. Critical information on pollution levels and their causes is also included.

Significant progress was also made on resolving the issue of free and prior and informed consent (FPIC) of indigenous cultural communities (ICCs) and indigenous people's (IP). In October 2014, the National Commission on Indigenous Peoples (NCIP) provided Certificates of Non-Overlap for areas known to have no IP communities or ancestral domains. An Affidavit of Understanding was signed between NCIP and LLDA, stating that LLDA will conduct consultations with ICCs/IPs



who may be affected in the course of project implementation. Instead of the FPIC, the LLDA has prepared an IP Plan.

The DENR is exploring the potential to scale up the ecosystem accounts at the LGU, province, and government levels. The critical question in these discussions is which agency should take the lead in developing ecosystem accounts, ensuring that the production is institutionalized and repeated at frequent intervals. It will be critical to draw on the data that are already produced by Government on a regular basis, and could potentially include land and water accounts and a group of selected ecosystem services. The more detailed ecosystem accounts piloted under the Phil-WAVES project could be used to further analyze selected hotspots.

**Capacity Building.** To enhance institutional capacity on SEEA and natural capital accounting, the PSA spearheaded the training course on the SEEA-2012 Central Framework in collaboration with the Australian Bureau of Statistics (ABS) in September 2014. The training introduced the participants from Phil-WAVES to the System of National Accounts (SNA) and its linkages to the SEEA 2012 Central Framework. The training also covered modules on: (i) environmental accounting as experienced by Australia; (ii) measurement and valuation of natural assets; (iii) supply and use tables and; (iv) environmental indicators.

The concepts and processes for Ecosystem Accounting and Valuation Methods were provided to the members of TWG during a follow-up training. This effort, which focused on mineral and ecosystem accounts, was spearheaded by the experts from the ABS and the University of Wageningen.

A follow-up training course on environmental accounting, conducted by the ABS and the Australian National University in Canberra in early December 2014, was attended by a delegation of Government officials from all the key agencies (NEDA, DENR, PCSD and LLDA).

**Communications:** The implementation of the communications strategy plan is under way and is being led by the NEDA with support from a team of local and international consultants. A series of communications products has already been developed, providing both background information on Phil-WAVES as well as featuring first results. These include frequently asked questions, project briefs, press releases on major events, op-eds, briefs and technical reports, infographics and two short movies on the development of the ecosystem accounts. In December 2014, the team of public information officers (PIOs) and communications experts convened to assess the validity of the Strategic Communications Plan. The draft 18-month communications plan was likewise developed to align with the Phil-WAVES TWG roadmaps (e.g., communication material for different needs and audiences).

## 6.2| Next steps

**Mineral account.** For the mineral accounts, a series of validation and consultative workshops will be conducted in 2015 to analyze and verify estimates, gaps and findings of the accounts.

**Ecosystems account.** For the two ecosystem accounts, the following activities will be conducted: (i) finalization of physical accounts and preparation of data for constructing monetary accounts, including validation and consultative workshops to analyze and verify estimates, gaps and findings of the accounts; and (ii) finalization of the technical reports for ecosystem accounts.

**Mangrove account.** For the mangrove accounting, a rapid data assessment will be performed in May 2015 to assess the feasibility of developing a mangrove account.

A dissemination workshop will be held by October 2015, after the finalization of the ecosystem and mineral accounts. The work on the mangroves accounts and macroeconomic indicators, as

well as the policy analysis for the ecosystem account, will commence in the second half of the calendar year. Targeted communication products will be developed in parallel to support the dissemination of the analysis and the lessons learned. Discussion on the institutionalization of the accounts and their policy uses will continue.

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# 8 | ANNEX

Annex 1. WAVES Results-Based Monitoring Matrix

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
<b>Country-level: PDO 1. To implement natural capital accounting in the country</b>							
<b>Outcome Indicators:</b>							
a. Country has committed to institutionalize natural capital accounting based on lessons learned from the WAVES program				Commitment to hire 4 staff in Philippine Statistics Authority (PSA); procurement in process 4 staff hired by PSA (funded from RETF)	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>4 staff in PSA</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Environment Accounts Division under the Macroeconomic Accounts Services of the Sectoral Statistics Office of the newly created Philippine Statistics Authority (PSA)</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Environment Accounts Division retained &amp; funded by PSA</li> <li>4 staff retained at PSA (funded out of RETF)</li> <li>Funding commitment to continue producing natural capital accounts at PSA</li> <li>Staff &amp; funding commitments for additional accounts in other government agencies (i.e., DENR, LLDA, and PCSD)</li> <li>Consider the use of data and indicators from Natural Capital Accounts (NCA) as key performance indicators (KPI) for development planning and monitoring</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Environment Accounts Division retained &amp; funded by PSA</li> <li>4 staff taken over as PSA staff</li> <li>Funding allocated to continue producing natural capital accounts at PSA</li> <li>Staff in place &amp; funding allocated in other government agencies (DENR, LLDA, PCSD)</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
<b>Results Indicators (Intermediate Outcomes)</b>							
1.1 Country has completed the milestones for the WAVES Preparation Phase <sup>b</sup>			All completed				
1.2 Country has asset accounts for selected natural assets			Small group meetings convened (i.e., PSA, NEDA and MGB)	Work started on mineral asset accounts TWG on Mineral Accounts convened	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Subsoil assets, preliminary land accounts for ecosystem pilots</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Preliminary subsoil asset accounts</li> <li>Preliminary land accounts for ecosystem pilots</li> <li>Final land accounts for ecosystem pilots</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Final subsoil asset accounts</li> <li>Preliminary mangrove accounts**</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Update subsoil asset accounts</li> <li>Final mangroves accounts**</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.3 Country has flow accounts for selected natural resources					<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Monetary minerals accounts</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Preliminary water accounts for Laguna Lake</li> <li>Preliminary monetary minerals accounts</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Final water accounts for Laguna Lake</li> <li>Final monetary minerals accounts</li> <li>Preliminary mangrove product accounts**</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Updated monetary minerals accounts</li> <li>Final mangrove accounts**</li> </ul>
1.4 Country has experimental ecosystem accounts (if intended in country work-plan)				Work started on ecosystem accounts for 2 pilot sites: Laguna Lake (Metro Manila) & Southern Palawan	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Preliminary results for 2 pilot sites</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Preliminary ecosystem accounts for 2 pilot sites, including ecosystem condition, ecosystem production, ecosystem asset, and a range of ecosystem services</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Final ecosystem accounts for 2 pilot sites, including ecosystem condition, ecosystem production, ecosystem asset, and a range of ecosystem services</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Final scaled-up ecosystem accounts at the LGU/provincial level</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.5 Country has macro-economic indicators derived from the SEEA accounts (if intended in country work-plan)					<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Preliminary estimates adjusted net savings &amp; adjusted net income</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Preliminary estimates adjusted net savings, adjusted net income, produce capital &amp; comprehensive wealth</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Final estimates adjusted net savings, adjusted net income, produced capital &amp; comprehensive wealth</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Updated estimates adjusted net savings, adjusted net income, produced capital &amp; comprehensive wealth</li> </ul>
1.6 Country has capacity for maintaining NCA (evidenced by dedicated government staff for NCA and regular reporting mechanism for production of natural capital accounts)				<p>Unit in PSA created with 4 staff; Technical working groups established for ecosystem accounts &amp; mineral accounts &amp; received training; 4 PSA staff received training at Australian National University course; PTEC training course on ecosystem accounting, and other workshops</p>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Unit in Philippine Statistics Authority created with 4 staff &amp; received training</li> <li>TWG established for macroeconomic indicators &amp; received training</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Environment Accounts Division retained &amp; funded by PSA</li> <li>4 staff retained at PSA (funded out of RETF)</li> <li>IAC-ENRS and TWG on mineral play active role</li> <li>Preliminary results of Analysis of growth and sustainability</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Environment Accounts Division retained &amp; funded by PSA</li> <li>4 staff taken over as PSA staff</li> <li>IAC-ENRS and TWG on mineral play active role</li> <li>Final report on Analysis of growth and sustainability</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
				4 staff hired by PSA (funded out of RETF) TWG on mineral established PSA staffs received training on SEEA 2012 and SNA 2008	<b>Achieved</b> <ul style="list-style-type: none"> <li>Environment Accounts Division created under the Macroeconomic Accounts Services under the Sectoral Statistics Office</li> <li>4 staff retained by PSA (funded out of RETF)</li> <li>Validation workshop for mineral accounts conducted In-ter-agency committee for environment and natural resource statistics (IAC-ENRS) revived</li> <li>TWG on mineral accounts received training</li> <li>GoP staff received training on macro indicators</li> </ul>		

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values					
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016

**PDO 2. To incorporate natural capital accounting in policy analysis and development planning in the country**

**Outcome Indicators:**

<p>a. NCA informs policy dialogue on growth, environment and poverty reduction, evidenced by citing NCA or using NCA indicators and data in, development plans, sector strategies and plans, executive orders, legislative documents, and the broader policy analysis literature (may include World Bank ESW, AAA and project formulation documents)</p>	<p>Executive Order 79<sup>c</sup> which refers to the information and data from the WAVES</p>	<p>NCA included in revised Philippine Development Plan as management tool/strategy</p>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Water pricing discussions for Laguna Lake based on preliminary results from ecosystem accounts</li> <li>Land use planning/zoning in Southern Palawan based on preliminary results from ecosystem accounts</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>Water pricing discussions for Laguna Lake based on preliminary results from ecosystem accounts;</li> <li>Land use planning/zoning in Southern Palawan based on preliminary results from ecosystem accounts</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Mining policy informed by mineral accounts &amp; ecosystem pilot in southern Palawan.</li> <li>Philippine Development Plan informed by macroeconomic indicators</li> <li>Policy dialogue on ecosystem accounts</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>Coastal development &amp; disaster risk reduction/disaster risk management policy &amp; national greening program informed by mangrove accounts</li> <li>Ecosystem accounts used as a M&amp;R tool for Laguna Lake Express Diike project</li> <li>Up-scale ecosystem accounts used to inform land use planning &amp; zoning</li> <li>Policy dialogue on macroeconomic indicators and national accounts</li> </ul>
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Annex 1. WAVES Results-Based Monitoring Matrix (continued)

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
<b>Results Indicators (Intermediate Outcomes)</b>							
2.1 Country has policy notes and analytical work based on NCA				1 <sup>st</sup> Policy Brief on Ecosystem Accounts for 2 sites, June 2014 Water pricing study for the Laguna Lake basin	<b>Target</b> <ul style="list-style-type: none"> <li>1<sup>st</sup> note on macro indicators-minerals</li> <li>1<sup>st</sup> note on mineral accounts</li> <li>2<sup>nd</sup> note on ecosystem accounts</li> </ul> <b>Achieved</b> <ul style="list-style-type: none"> <li>Methodological note on mineral accounts</li> <li>Technical reports &amp; series of snapshots on ecosystem accounts</li> <li>Final Findings of Water pricing study for the Laguna Lake basin presented</li> </ul>	<b>Target</b> <ul style="list-style-type: none"> <li>Final technical report &amp; draft policy notes on macro indicators</li> <li>Final technical report &amp; draft policy notes on 2 ecosystem pilot sites;</li> <li>Final technical report &amp; draft policy note on mineral accounts;</li> <li>Draft Policy note on scaling up ecosystem accounting to the rest of the country;</li> <li>1<sup>st</sup> draft policy note on mangroves accounts</li> </ul>	<b>Target</b> <ul style="list-style-type: none"> <li>Technical reports, policy notes on eco-system accounts for the country;</li> <li>Final technical report &amp; policy notes on mangrove accounts</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
2.2 Country has capacity for using NCA in policy dialogue (evidenced by government staff trained in using NCA)		2 training workshops for policy-makers, user agencies (government, academic, CSOs)	2 government staff sent UN Statistics Division international seminar on ecosystem accounts to Nov 2012	Two 2-day workshops on ecosystem accounting Sept 2013 (110+ participants from government, civil society, private sector & academia)  4 government staffs sent to SEEA regional training in Bangkok, Oct 2013  10 government staffs sent to one-week Introductory NCA course conducted by ABS-ANU, December 2013	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>• 2 staff attend NCA course of ABS-ANU</li> <li>• Training on SEEA 2012</li> <li>• Follow-up training on ecosystem accounts</li> <li>• Training on adjusted net savings, adjusted net income produce capital and comprehensive wealth</li> </ul> <p><b>Achieved</b></p> <ul style="list-style-type: none"> <li>• 4 staff attended NCA course of ABS-ANU, December 2014</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>• 2 staff attend NCA course of ABS-ANU</li> <li>• Follow-up training on SEEA 2012 and links to SNA</li> <li>• Hands-on training on mangroves accounts</li> <li>• Training on Analysis of growth and sustainability</li> </ul>	<p><b>Target</b></p> <ul style="list-style-type: none"> <li>• 2 staff attend NCA course of ABS-ANU</li> <li>• Database training for PSA</li> </ul>

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**Annex 1. WAVES Results-Based Monitoring Matrix (continued)**

Objectives & Outcome (Results) Indicators	Target Values						
	Base-Line June 2011	Prep year June 2012	Year 1 June 2013 <sup>a</sup>	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
				30-40 government staffs (i.e., DENR, LLDA, NEDA, OPAEP/LLDA)& civil society/academe representatives participated in one-week training on ecosystem accounting, February 2014  30-40 government staffs (i.e., PSA, DENR-MGB, NEDA) participated in one-week training on SEEA central framework, February 2014	<ul style="list-style-type: none"> <li>• Training on SEEA 2012 and links to SNA, September 2014</li> <li>• Two 1-week training courses on ecosystem accounting, September 2014 and February 2015</li> <li>• Hands-on training for TWGs on GIS, Sednet, statistical methods and valuation—throughout the year</li> <li>• 1<sup>st</sup> WAVES knowledge exchange workshop on ecosystem accounting, February 2015</li> <li>• Training on adjusted net savings, adjusted net income produce capital and comprehensive wealth, April 2015</li> </ul>		

<sup>a</sup> In the Philippines the preparation period lasted until June 2013.

<sup>b</sup> Phil-WAVES Steering Committee established, Feasibility study approved by Phil-WAVES Steering Committee and WAVES Secretariat, Stakeholder consultation on draft work plan, Work plan approved by National Steering Committee and WAVES Secretariat.

<sup>c</sup> EO 79 – Institutionalizing and Implementing Reforms in the Philippine Mining Sector Providing Policies and Guidelines to Ensure Environmental Protection and Responsible Mining in the Utilization of Mineral Resources.

\*\* For confirmation depending on the result of the rapid data assessment.

## **Wealth Accounting and the Valuation of Ecosystem Services**

Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership led by the World Bank that aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts.

[www.wavespartnership.org](http://www.wavespartnership.org)