



WAVES  
Annual Report  
May 2017



# Annual Report 2017



WAVES

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



WORLD BANK GROUP

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

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1818 H Street NW, Washington DC 20433  
Telephone: 202-473-1000 Internet: [www.worldbank.org](http://www.worldbank.org)

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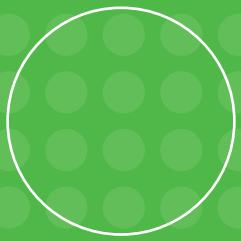


**Guatemala**

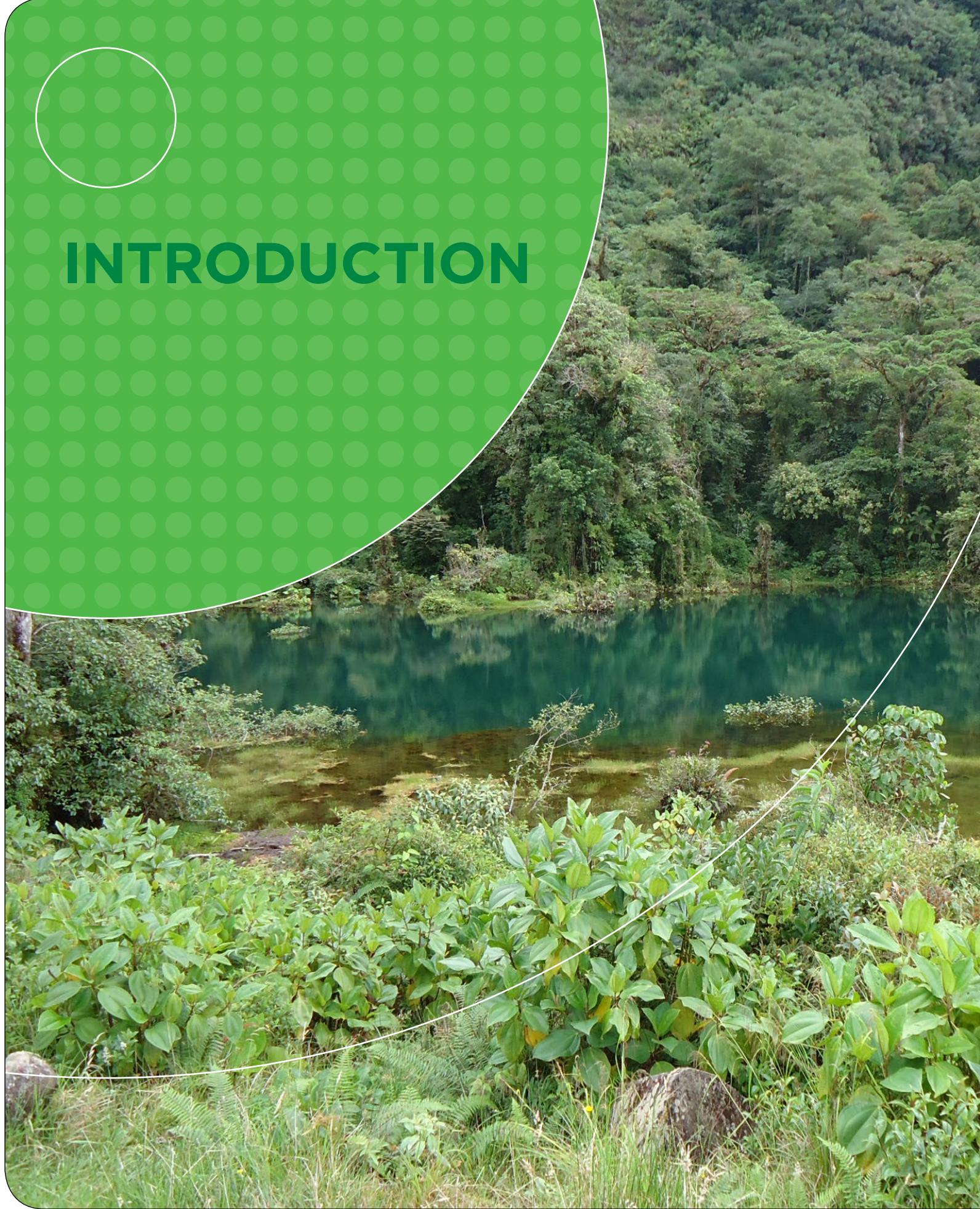


# Abbreviations

- AFR** Africa Region of World Bank  
**BCCR** Central Bank of Costa Rica  
**BETF** Bank Executed Trust Fund  
**BMZ** Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (Germany)  
**BPS** National Statistics Office (Indonesia)  
**CIC** Core Implementing Country  
**Defra** U.K. Department for Environment, Food, and Rural Affairs  
**DFID** U.K. Department for International Development  
**DWA** Department of Water Affairs (Botswana)  
**EAP** East Asia and Pacific Region of World Bank  
**ECA** Europe and Central Asia Region of World Bank  
**ECLAC** UN Economic Commission for Latin America and the Caribbean  
**EO4EA** Earth Observations for Ecosystem Accounts  
**ESCAP** Economic and Social Commission for Asia and the Pacific  
**GDN** Global Development Network  
**GEF** Global Environment Facility  
**GEO** Group on Earth Observations  
**GIZ** Deutsche Gesellschaft für Internationale Zusammenarbeit (Germany)  
**GDP** Gross Domestic Product  
**IDA** International Development Association  
**IFC** International Finance Corporation  
**IR** Intermediate Results Indicator  
**KG STAT** Kyrgyz Republic Implementation of the National Strategy for Development of Statistics  
**LAC** Latin America and the Caribbean Region of World Bank  
**M&E** Monitoring and Evaluation  
**MDTF** Multidonor Trust Fund  
**NAMRIA** National Mapping and Resource Information Authority (Philippines)  
**NASA** U.S. National Aeronautics and Space Administration  
**NCA** Natural Capital Accounting  
**NCEAS** National Center for Ecological Analysis and Synthesis  
**NDCs** Nationally Determined Contributions  
**OECD** Organisation for Economic Co-operation and Development  
**PDO** Project Development Objectives  
**RCMRD** Regional Centre for Mapping of Resources for Development  
**REDD+** Reducing Emissions from Deforestation and Forest Degradation  
**SDGs** Sustainable Development Goals  
**SEEA** System of Environmental-Economic Accounting  
**SISNERLING** Integrated System of Environmental and Economic Accounting (Indonesia)  
**SNAPP** Science for Nature and People Partnership  
**TTA** Targeted Technical Assistance  
**UNCEEA** UN Committee of Experts on Environmental-Economic Accounting  
**USGS** U.S. Geological Survey  
**WACA** West Africa Coastal Areas Management Program  
**WAVES** Wealth Accounting and Valuation of Ecosystem Services



# INTRODUCTION





**Costa Rica**

## WAVES Becomes WAVES+

The past 12 months witnessed the successful transition of the Wealth Accounting and Valuation of Ecosystem Services (WAVES) partnership to WAVES+. With a financial commitment by the United Kingdom's Department for International Development (DFID), the new WAVES+ Multidonor Trust Fund became active. WAVES+ has four main aspirations: reach out to more countries; be flexible in the type of support it offers to countries; ensure that natural capital accounting (NCA) informs government policy; and integrate NCA into World Bank operations. All of these objectives were critical components during the first year of implementation.

The growing global interest in NCA has led to increasing demand for support in implementing it. For example, during planning for the seventh replenishment of resources of the Global Environment Facility Trust Fund (GEF-7), more than 100 countries identified natural capital, including NCA, as a priority. Two new countries that will be supported by WAVES, known as “core implementing countries”—Zambia and the Kyrgyz Republic—were chosen, based on available funding and a process that takes all four aspirations into account. Their inclusion brings the total number of WAVES countries to 10. In February

2017, we conducted a successful preparation mission in Zambia. The strong demand for WAVES+ services from Zambia's government—especially from the minister of development planning—and the support from management in the World Bank's country office in Zambia set the stage for rapid progress. A scoping mission to the Kyrgyz Republic, defining the nature of our support there, took place in April. In both new countries, WAVES+ engagement is based on country-specific needs and aligned with World Bank operations: in Zambia, with the Integrated Forest Landscape Project; and in the Kyrgyz Republic, with the Integrated Forest Ecosystem Management Project.

Our new regional program also focuses on country support—while simultaneously integrating NCA and WAVES+ into World Bank operations. In collaboration with our strategic partners, including regional economic commissions and the United Nations Statistics Division, the WAVES partnership supported several countries by providing targeted training and South-South learning. Targeted technical assistance supports NCA in three World Bank programs: forest agendas in Nepal, financed by the Forest Carbon Partnership Facility and the Forest Investment Program, two World Bank-led climate investment funds; a green growth program in Uruguay; and the West Africa Coastal Areas program for coastal management and climate resilience in Benin, Côte d'Ivoire, Mauritania, São Tomé and Príncipe, Senegal, and Togo. This work may become part of a planned International Development Association (IDA) project for the region.

Ensuring that NCA informs government policy is a major objective of WAVES+. Our first annual policy forum was held in November 2016, co-hosted by the Netherland's Ministry of Foreign Affairs. Participants presented

close to 30 case studies from partner countries on the use of NCA. WAVES countries will also benefit from two reports published in late 2016 and early 2017 that analyze 40 years of Dutch experience in NCA. This experience is already facilitating more effective NCA use and ways to link NCA to government policy in WAVES countries, especially countries that have recently joined the program.

Furthermore, WAVES+ will intensify collaboration with the World Bank Group's natural capital initiatives involving the private sector. We are working closely with the Natural Capital Program, led by the International Finance Corporation (IFC), especially the piloting of the Natural Capital Protocol, a framework designed to generate information to help businesses make better decisions about their interactions with nature. WAVES and IFC conducted simultaneous missions to both Rwanda (in February 2017) and the Philippines (in March) to ensure coordination of their respective programs.

The most notable advances in experimental ecosystem accounts took place in the Philippines and Rwanda. The regional work in this area included support to communities of practice to develop ecosystem accounts. At the global level, WAVES contributed to the transitioning of ecosystem accounting toward an accepted international standard, specifically the better valuation of ecosystem services.

Meanwhile, we continued our fundamental work in WAVES countries. For the more established core implementing countries, 2017 was a time to strengthen already established NCA work by updating accounts, deepening analysis, strengthening institutions and links with policy making, and sharing lessons learned.

- **Botswana** continued to build knowledge and capacity around

water accounts. Not only did the NCA team continue expanding the accounts to include groundwater stocks, but they also held nine seminars with Department of Water Affairs regional offices, participated in a special session on water accounting during a regional symposium, and drafted four technical papers on water-related topics.

- In **Colombia**, the NCA unit updated its accounts for forests and the Orinoquía ecosystem and presented multiple case studies during the WAVES policy forum in The Hague. NCA results have been integrated into the calculations for Colombia's peace dividend, adjustments to water prices, and monitoring indicators under the country's Green Growth National Policy.
- **Costa Rica** updated its accounts for water, forests and energy, and moved forward with developing ecosystem accounts. The Central Bank of Costa Rica established an Environmental Statistics Unit within its Macroeconomic Statistics Department and also participated in a regional workshop on energy accounts that was co-hosted by WAVES and the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).
- The **Philippines** government completed and published minerals and ecosystem accounts for Laguna de Bay Basin and Southern Palawan. The Philippine Statistics Authority developed draft mangrove ecosystem accounts at the national and pilot levels. The government also completed a national ecosystem extent account. The team hosted a national NCA conference with the World Bank in Manila to showcase the country's NCA

# WAVES Natural Capital Accounting

## 30-31 March 2017 | Manila, Philippines

Accounting Nature, Capitalizing Partnerships for the Future



The team hosted a national NCA conference with the World Bank in Manila to showcase the country's NCA achievements.

achievements and to continue forging links between NCA and government policies.

For their part, the newer WAVES countries made significant strides in 2017 to develop and institutionalize NCA.

- **Guatemala** completed a wide array of accounts for water, forests, land, energy and emissions, fisheries and aquaculture, solid waste, and minerals; agriculture accounts were underway. Data from forest accounts were used in a study by the Inter-American Development Bank to analyze Guatemala's forest and fuelwood sectors. NCA results will inform the country's National Development Plan and monitor its progress toward the Sustainable Development Goals (SDGs).

- **Indonesia** built on its long history of producing

environmental economic accounts to steadily transition to the System of Environmental-Economic Accounting (SEEA). In 2017, Indonesia hosted its first South-South knowledge exchange, as well as a knowledge exchange with international experts, and produced two analytical papers on linking NCA to development policies.

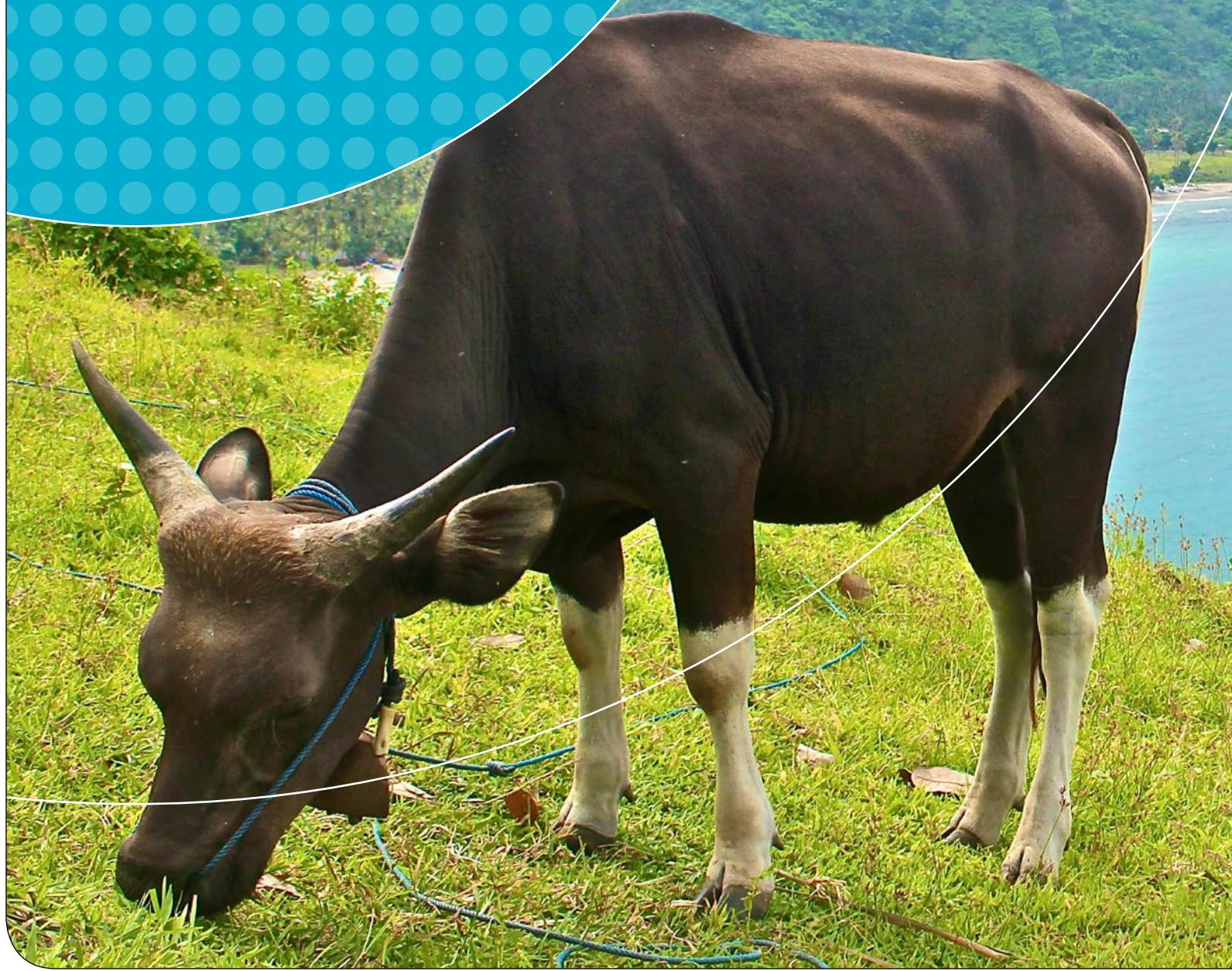
- In **Rwanda**, the NCA team completed preliminary land accounts and produced early results for mineral and water accounts. National ecosystem accounts neared completion, quantifying changes in carbon storage, sediment retention and loss, and water quantity and timing for 1990–2015. Early findings from the land and water accounts were featured at a high-level national NCA workshop, while further analysis will inform Rwanda's Third

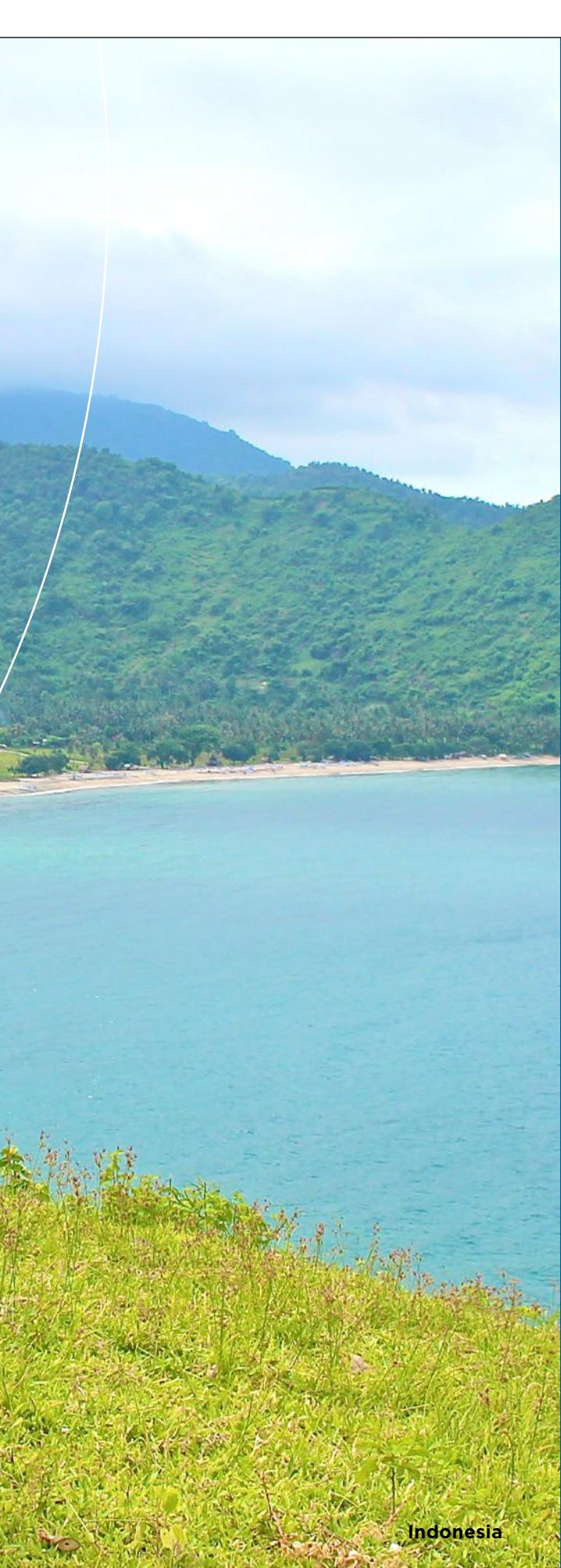
Economic and Development for Poverty Reduction Strategy, its Green Growth and Climate Resilience Strategy, and targets under the SDGs, among other policies and plans.

In sum, there is growing demand from countries for better information about their natural capital resources and for assistance in integrating this knowledge into development and economic decision-making frameworks. NCA is an explicit priority on the sustainability agenda of the World Bank, and our new WAVES+ phase is well on track. This past year, we have put significant effort into fundraising, and we hope that these discussions with our development partners will lead to decisions that allow WAVES to continue providing global leadership while helping countries meet their aspirations for a sustainable future.

1

# TRANSLATING DATA INTO POLICY





# Outcomes of the Natural Capital Accounting Forum

From its inception, WAVES has intended to improve how NCA can inform and influence government policies. In 2016, WAVES commissioned the report *From Statistics to Policy* from PBL Netherlands Environmental Assessment Agency, which examined the development and use of environmental accounts and statistics in that country. The report described both the wealth of learning from this information, and the urgency in sharing it. The new WAVES+ phase has a strengthened emphasis on linking accounts and policy, by three means. First, it will help WAVES core implementing countries set up processes and institutional networks for channeling NCA information into the formulation of policies. Second, it will assist governments in simultaneously producing accounts and using the information generated to improve policies that promote sustainable development. Third, it will support knowledge sharing on NCA use among WAVES countries, as well as among countries with a long history of NCA use.

To boost these efforts, WAVES and the Netherlands' Ministry of Foreign Affairs conceived and organized the Forum on Natural Capital Accounting for

Indonesia

Better Decision Making, held November 22–23, 2016, in The Hague. The intention was to gather representatives of both WAVES countries and higher-income countries with long experience in NCA to facilitate the exchange of experiences and therefore increase the opportunities for learning.

The forum's specific objectives were to:

- Synthesize the experiences of applying NCA to government policies and decision making
- Assess how to help countries more effectively connect NCA to policy and decision making
- Begin developing key messages for applying NCA to policy and decision making
- Plan for the ongoing improvement of links among NCA, policy, and decision making—including regularly recurring forums

The forum was organized to be as demand led as possible. An advance survey of the participating countries confirmed that their common aspiration was for NCA to be better linked to critical decisions by governments regarding their environmental and economic policies. The forum therefore focused on two policy challenges:

1. Major policy trends, such as the SDGs, green growth, and billions of dollars in natural resource investment, could greatly benefit from better information on natural capital.
2. Effective policy making not only involves governments, but also engages business and civil society, through both formal and informal mechanisms.

Forum participants discussed how to get the right information about natural capital to this broad group of players to help them make better decisions.

## The Beginnings of a Community of Practice

Forty-five participants from low-, middle-, and high-income countries on five continents attended the NCA forum in The Hague. Participants covered the entire spectrum of NCA, from the "supply side" (creation of accounts) to the "demand side" (policy/decision making), with many working in between (for example, as researchers and communications specialists). The Dutch hosts and others had decades of experience in NCA, while others had just started. All had rich and diverse experiences in policy. The forum succeeded in convening a diverse group of people with a common sense of purpose and a willingness to continue to collaborate and learn together.

## Messages Emerging from the Forum

Participants reported that the forum helped them gain a stronger understanding of why countries need to improve their basis for decisions regarding environmental and economic policies, and how to achieve this through NCA. While the shared experiences and discussions improved almost

everyone's knowledge of how to strengthen links between NCA and policy, the event also identified major gaps, for instance, lack of guidance on how to link NCA to major policy agendas such as the SDGs. The forum attracted significant social media attention via the channels of the Netherlands' Ministry of Foreign Affairs and the World Bank Group.

WAVES and the Netherlands' Ministry of Foreign Affairs planned to compile the papers presented at the forum into a publication to illuminate for both current and potential users and producers of NCA how they can work together to maximize the accounts' use and usefulness, and how the accounts can lead to better policy decisions. The publication would consolidate experiences at the country, economic sector, and natural resource levels, and describe the use of specific policy tools, drawing largely but not exclusively from the forum papers, presentations, and discussions.

## Next Steps

Forum participants showed strong enthusiasm for continuing the event beyond the November 2016 meeting. The options will draw on

## Common Messages from the Forum: Advantages of Natural Capital Accounting

- Provides systematic, structured, and integrated information offering a holistic view of the economy and the environment
- Adds value by integrating existing information and offering it to policy makers regularly and in a consistent format
- Can be readily used in models and tools regularly employed in economic policies, complementing the analysis with information on environmental impacts
- Can support decisions in important policy agendas, such as green growth, climate change, and achieving the SDGs
- Can be scaled up and down and aggregated in various ways to support different levels of policy making
- Promotes openness and transparency
- Requires improved communication to be better understood and used

Forum participants showed strong enthusiasm for continuing the event beyond the November 2016 meeting.



the priorities identified at the initial event:

- **Thematic work**, notably around the SDGs, nationally determined contributions (NDCs) for reducing greenhouse gas emissions under the Paris Agreement, and related needs such as reducing emissions from deforestation and forest degradation (REDD+) and payments for ecosystem services.
- **Regional and in-country work**, especially learning and leadership groups, peer reviews between countries, awareness/training work, and further case studies.
- **Practical guidance**, ranging from briefing notes to full manuals, which draws from the above and aims at specific policy processes, such as SDG implementation, as well as scoping for the possibility of implementing NCA in new countries.

• **Communications and awareness**, including infographics, case studies, messaging on changing global priorities, and regular press conferences. Guidance, peer review, and capacity development can also be considered.

• **Maintaining the momentum**, by not only keeping the group of forum participants inclusive and lively, but also organizing them well. This will involve a core team for the process (drawn from the co-hosts), thematic working groups for the content, and a possible reference group from the wider membership so that the group remains demand led.

• **Planning the next forum**, including the venue and hosts. While the Netherlands venue and hosting were highly praised by participants, the co-hosts were open to all suggestions and volunteers for the next

meeting. The next forum was envisioned to take place in November 2017. The location, overall theme, and other factors would be discussed and draw on the work of the participants of the initial forum during the intervening year.

The international forum on linking NCA to policy achieved its initial objectives. It pulled together an engaged group of NCA experts and government staff from diverse countries who work on policy. It confirmed the value of NCA for informing policy decisions and shared early experiences on how to achieve this goal. It offered initial messages to attract players across the world who need to act. It identified where further research, communication, and innovation could help extend NCA's reach and potential. Moreover, it catalyzed a spirit of commitment to do this work collaboratively. In the end, the forum was as much about its participants as about its purpose.

**2**

## **ECOSYSTEM ACCOUNTS**





**Botswana**

## Progress on the Country, Regional, and Global Levels

The SEEA Central Framework is a statistical standard that accounts for nature's contribution to economic sectors already measured in the System of National Accounts—the internationally agreed-upon standard method for compiling measures of economic activity. The United Nations Statistical Commission adopted the SEEA Central Framework in 2012 as the method to account for material natural resources. More than 50 countries around the world have collected data for natural capital accounts for land, minerals, forests, water, fisheries, and energy. Many countries now want to go beyond these resources to include ecosystem services and other natural resources that are not traded or marketed, and therefore are harder to measure. The SEEA Experimental Ecosystem Accounts (SEEA-EEAs) are designed to measure and value ecosystem services such as carbon sequestration and storage, biodiversity, the “regulating” services of ecosystems such as forests for sediment control, and some cultural services. The SEEA-EEAs also include a mapping component, so that changes in the contribution of ecosystem services to a nation’s economy can be measured across space and over time. The SEEA-EEA approach remains

an experimental framework, and the experiences of WAVES and other natural capital accountants will be instrumental in efforts to establish it as an international statistical standard. Progress in the WAVES countries toward ecosystem accounts is shown in figures 2.1 and 2.2.

In the past year, the most notable work on experimental ecosystem accounts in WAVES countries took place in the Philippines and Rwanda. At the regional level, WAVES continued to support communities of practice to develop ecosystem accounts and facilitate South-South learning on NCA. At the global level, WAVES worked on transitioning ecosystem accounting toward an accepted international standard, making use of Earth observation data, and better valuation of ecosystem services.

### Progress in the Philippines

Several activities were completed in 2016 or underway in the spring of 2017:

- The Philippine government published ecosystem accounts in late 2016 for the Southern Palawan region and Laguna de Bay Basin, the watershed for the country's largest lake, in metropolitan Manila. The government also produced a

**FIGURE 2.1 PROGRESS ON ECOSYSTEM ACCOUNT COMPONENTS IN WAVES COUNTRIES (AS OF MARCH 31, 2017)**

	Ecosystem extent	Ecosystem condition	Physical supply & use	Monetary supply & use
Colombia	▲▲	▲	▲▲	▲▲
Costa Rica	●		●	●
Guatemala	●		●	
Indonesia	▲			
Philippines	▲●	▲●	▲●	▲●
Rwanda	●		●	

### Key

- National scale, complete
- National scale, in progress
- ▲ Subnational scale, complete
- ▲ Subnational scale, in progress

series of policy briefs (see box) about these accounts.

- A national map that assesses ecosystem extent (the area of ecosystems and their change over time), which was developed by the Philippines' National Mapping and Resource

Information Authority (NAMRIA) and SarVision, a Netherlands-based engineering consulting firm, was expected to be finalized in the spring of 2017. Acquisition and processing of the map data was complete and had been field validated for six provinces. The technical work was supported by extensive capacity-building activities. SarVision conducted training sessions for government staff on the processing and interpretation of radar images, including a two-week, hands-on session for two NAMRIA staff members.

- A team of international experts from The Nature Conservancy, IH Cantabria, and the University of California, Santa Cruz, supported the Philippine Statistics Authority's effort to develop national mangroves accounts by modeling and



### Policy briefs about ecosystem accounts in the Philippines

- Southern Palawan:** Coral reefs, coral reef fisheries, mangroves, carbon, land use, and irrigation for palm oil and rice paddies
- Laguna de Bay Basin:** Sedimentation, flooding, fisheries, water quality, and score card that evaluates the management of natural resources by local government units near the lake

**FIGURE 2.2 PROGRESS ON ECOSYSTEM SERVICES IN ACCOUNTS IN WAVES COUNTRIES  
(AS OF MARCH 31, 2017)**

Figure 2.2a Ecosystem Services Covered by SEEA-EEA

	Carbon sequestration & storage	Erosion control	Water supply	Water regulation	Riverine flood protection	Coastal flood protection
Colombia	▲	▲	▲			
Costa Rica	●		●			
Guatemala	●		●			
Indonesia						
Philippines	▲	▲	▲	▲	▲	●
Rwanda	●	●	●	●		

Figure 2.2b Ecosystem Services Covered by SEEA Central Framework (to which SEEA-EEA adds mapping)

	Recreation & tourism	Timber	Nontimber forest products	Fisheries	Agriculture
Colombia	▲	▲	▲	▲	
Costa Rica	●	●			●
Guatemala		●	●	●	
Indonesia					
Philippines	▲				▲
Rwanda					

**Key**

- National scale, complete
- ▲ Subnational scale, complete
- National scale, in progress
- ▲ Subnational scale, in progress

valuing the coastal zone protection services of mangroves, including a detailed analysis for 12 pilot sites. The Philippines is home to half of the world's species of mangroves and has one of the world's longest coastlines, making this an important ecosystem service to understand. In addition, this was the first national-level application of coastal zone guidelines developed by the WAVES program. The team of experts provided two training sessions for Philippine government staff and collected additional data to customize their models to the Philippines to include two- and three-dimensional modeling at the national and pilot levels. The estimated shoreline protection services provided important information for one pilot site of the new mangrove accounts and were also intended to provide background information for the World Bank's Risk Resiliency and Sustainability Program.

## Progress in Rwanda

In Rwanda, initial national ecosystem accounts neared completion, with support from the Science for Nature and People Partnership (SNAPP)—The Nature Conservancy, the Wildlife Conservation Society, and the National Center for Ecological Analysis and Synthesis (NCEAS) at the University of California, Santa Barbara. The Rwanda ecosystem accounts quantify, for 1990–2015, changes in carbon storage, sediment retention and loss, and water quantity and timing (measuring the amount of flow in rivers in the wet and dry seasons). The accounts specifically highlight how changes in water quantity, quality, and timing affected hydroelectric power generation, irrigation, and domestic water supply. The findings were expected to be presented in the summer of 2017

to the WAVES Rwanda Steering Committee to help determine next steps. The ecosystem accounts also would inform the development of the country's third Economic Development and Poverty Reduction Strategy, scheduled to begin in August 2017.

Furthermore, with support from WAVES and the inter-governmental Regional Centre for Mapping of Resources for Development (RCMRD), the Rwanda Natural Resources Authority developed a 2015 land cover map that would allow results from ecosystem accounts to be directly compared to land accounts, which began to track land use in 2014. Development of the 2015 map included extensive capacity-building work for the Rwanda Natural Resources Authority and field validation of images processed from satellite data.

## Regional Work

In Africa, WAVES provided technical assistance to a partnership led by Conservation International and the U.S. National Aeronautics and Space Administration (NASA) that is using Earth observation data to measure ecosystem extent and condition for Sub-Saharan Africa in support of the Gaborone Declaration for Sustainability in Africa.

At the Oceania Ecosystem Services Forum, held in Brisbane, Australia, in March 2017, WAVES helped organize a workshop on "Designing a Research and Practice Network for Natural Capital Accounting in the South Pacific." With involvement from the Global Development Network (GDN) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the workshop brought together experts in ecosystem accounting from Australia, Fiji, the Philippines, and Samoa, thereby laying the groundwork for additional collaboration among nations in that region that are working

on ecosystem accounting. The common interests that emerged from the workshop were climate change, fishing, and the desire to develop a regional approach to the issues involved in using NCA. Participants floated ideas, including using U.S. Geological Survey (USGS) data on land cover, combined with new global information about oceans, as a ready-made data source for countries to begin work on NCA.

WAVES planned to support a May 2017 technical workshop on ecosystem accounts for countries in Latin America and the Caribbean. Participating countries were expected to include original WAVES core implementing countries Costa Rica and Colombia, which were seeking to finish ecosystem accounts. Representatives from Chile, Guatemala, and Mexico were expected to attend the workshop to develop detailed technical work plans to help them complete ecosystem accounts in their countries.

## Global Work

WAVES continued to support methodological work with the goal of making ecosystem accounting an accepted international standard. Building on experiences in multiple countries, a group led by Lars Hein published *Defining Ecosystem Assets for Natural Capital Accounting*, a report that explains the concepts of capacity and degradation when mapping, modeling, and valuing ecosystem services within accounts.

The Earth Observations for Ecosystem Accounts (EO4EA) effort was formally approved by the Group on Earth Observations (GEO) as an initiative at its Plenary Session in St. Petersburg, Russian Federation, in November 2016. EO4EA seeks to better understand how satellite and other Earth observation data can inform ecosystem accounting with higher quality and more



WAVES continued to support methodological work with the goal of making ecosystem accounting an accepted international standard.

Indonesia

timely data. Four EO4EA work streams made progress, facilitated by a workshop hosted by the European Environment Agency in Copenhagen, Denmark, in March 2017. The four work streams are: 1) compiling the use of Earth observation data in existing ecosystem accounts; 2) defining ecosystem extent and condition; 3) classifying ecosystem services and using Earth observations to

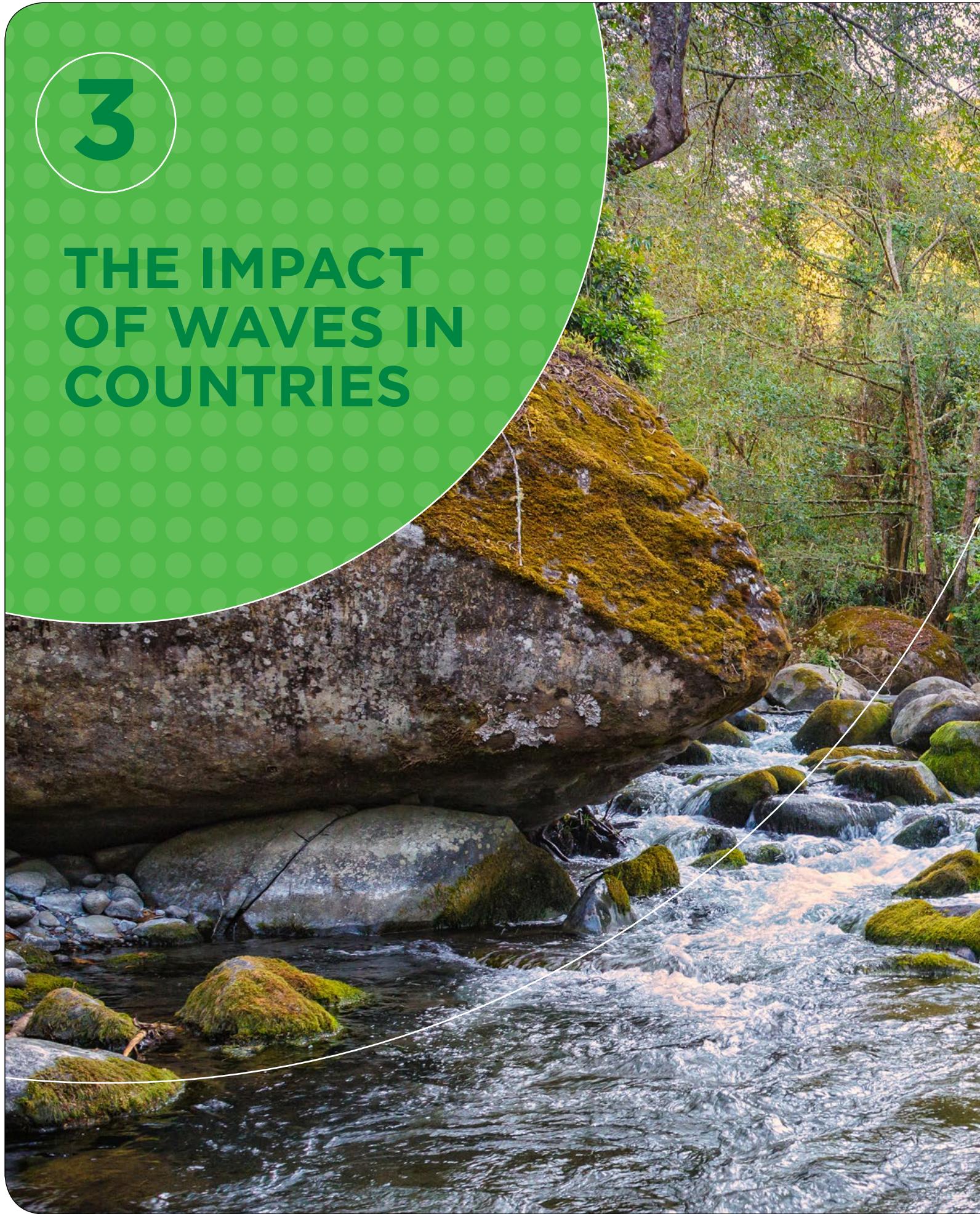
track ecosystem services; and 4) conducting ecosystem accounting pilot programs.

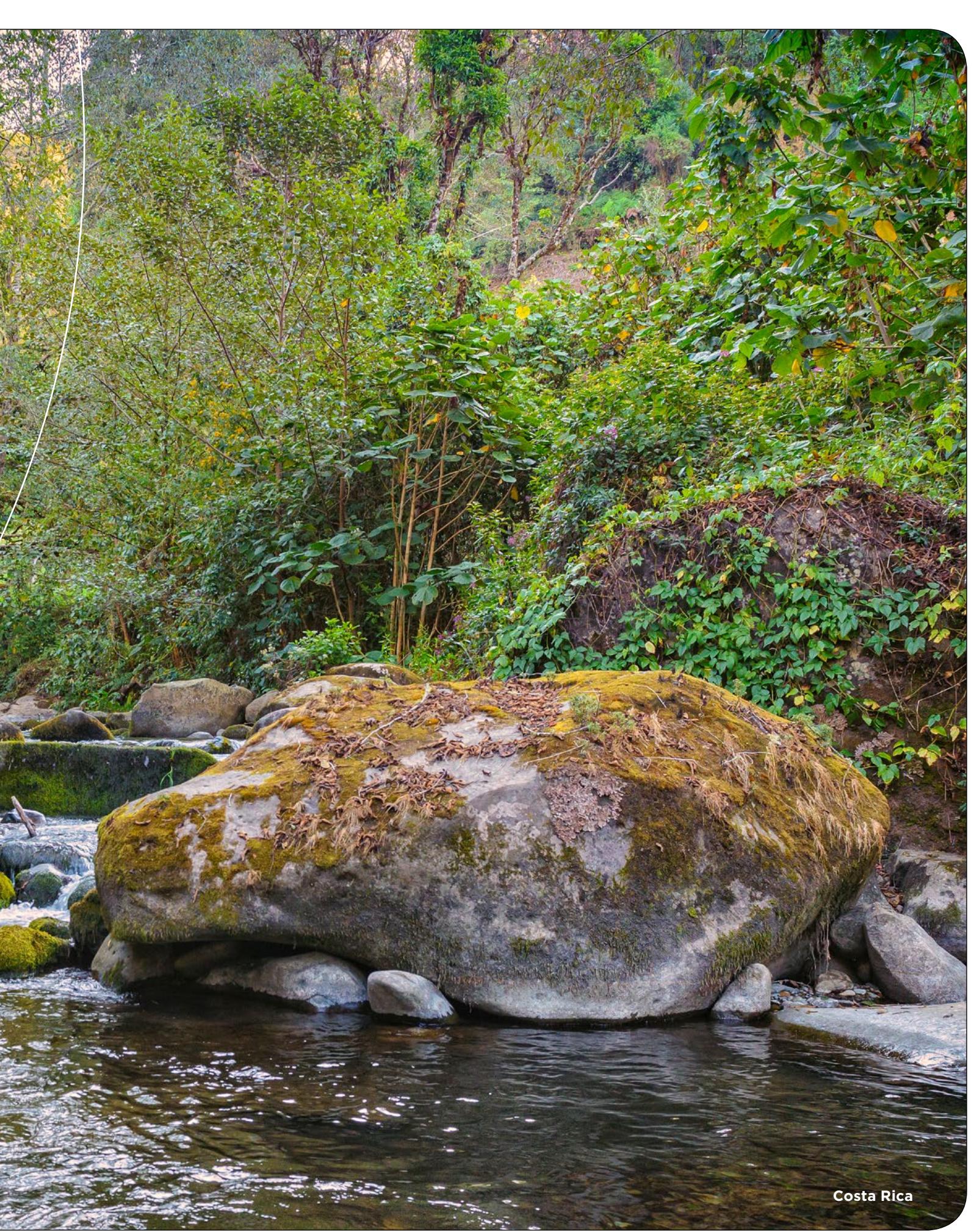
Work advanced on a WAVES-led report to better value ecosystem services within ecosystem accounts. The report, which was expected to be completed in the following year, would include a draft of guidelines for practitioners to use in economic valuation that supports ecosystem

accounting. WAVES also continued to collaborate with other organizations to address valuation for ecosystem accounts, including the U.K. Department for Environment, Food, and Rural Affairs (Defra), and the European Commission, which had started a project to value ecosystem services in ecosystem accounts for the European Union.

3

## THE IMPACT OF WAVES IN COUNTRIES





Costa Rica

# BOTSWANA

**“With population growth, increasing demand for water, decline in available fresh water, there is a need to account for every drop of water that is available in the country.”**

—Prince Maele, Minister of Land Management, Water, and Sanitation Services

ACCOUNT TYPE	STATUS	NEXT STEPS
Water	 Complete: 2010/11, 2011/12	<ul style="list-style-type: none"><li>• Quantify wastewater and groundwater stocks</li><li>• Complete full monetary accounts</li><li>• Update accounts annually</li><li>• Produce soil moisture experimental accounts</li></ul>
Minerals	 Complete: 1994–2012, 2015 (diamonds, copper, nickel, coal, gold, soda ash)	<ul style="list-style-type: none"><li>• Hold technical training</li><li>• Strengthen institutions</li><li>• Integrate NCA into the Mines and Mineral Act (under review)</li><li>• Incorporate other commodities (uranium, coal, bed methane, and others) into the accounts</li><li>• Conduct quality checks for data, analysis, and policy influence</li></ul>
Energy	 Complete: 2010/11–2014/15 (electricity, coal)	<ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Produce policy briefs</li><li>• Inform the draft Energy Efficiency Strategy</li><li>• Inform the draft Energy Policy</li><li>• Inform the draft Renewable Energy Strategy</li><li>• Conduct annual surveys for energy balances and accounts</li></ul>
Tourism component of land and ecosystem accounts	 In progress (2015 data on tourist accommodation and arrivals are complete)	<ul style="list-style-type: none"><li>• Conduct first experimental account and expanded account (with quality checks and updated annually)</li><li>• Compile an impacts database</li><li>• Produce annual policy briefs</li></ul>
Macroeconomic indicators of sustainable development	 Complete: 1994–2014	<ul style="list-style-type: none"><li>• Update indicators annually</li><li>• Undertake capacity-building and bench-marking activities with other countries</li><li>• Produce policy briefs and quarterly reports to policy makers</li></ul>

PROGRESS MADE DURING THE YEAR		WHERE IS NCA INFORMING BOTSWANA'S POLICIES AND PLANNING?
<b>Accounts</b> Ongoing work on groundwater stock accounts		
<b>Analysis</b> Papers drafted on: <ul style="list-style-type: none"> <li>• Households not connected to the Water Utilities Cooperation</li> <li>• Partial monetary accounts</li> <li>• Wildlife water consumption</li> <li>• Water management in Botswana</li> </ul>		
<b>Capacity building</b> <b>9</b> Seminars held in nine Department of Water Affairs (DWA) regional offices		
<b>Dissemination</b> <ul style="list-style-type: none"> <li>• DWA participated in the Water Accounting Special Session of the Water Net Symposium in Gaborone (October 26–28, 2016)</li> <li>• DWA participated in the regional water accounting community of practitioners</li> </ul>		<ul style="list-style-type: none"> <li>• National Development Plan 11</li> <li>• National Vision 2036</li> <li>• President's State of the Nation Address (2014, 2015, and 2016)</li> <li>• 2017 Budget Speech, Minister of Finance and Economic Development</li> <li>• Draft Framework for the National Strategy for Sustainable Development (used to inform Vision 2036)</li> <li>• Gaborone Declaration for Sustainability in Africa (2012)</li> <li>• Fiscal rule for mineral revenues (see 5.43-4 of NDP11)</li> <li>• National Water Master Plan</li> <li>• Master Plan for Wastewater and Sanitation</li> <li>• 2013 Integrated Water Resources Management Plan</li> <li>• Draft Energy Efficiency Strategy</li> <li>• Draft Energy Policy</li> <li>• Draft Renewable Energy</li> </ul>



## WATER ACCOUNTING IN BOTSWANA: A CLOSER LOOK

### Challenge

Water is scarce, and there are important trade-offs to consider in terms of revenue-maximizing investments and meeting the needs of communities and natural ecosystems.

### What Do the Accounts Show?

Physical and monetary information on sources of water and consumption by users and their location.

### Why Is This Important?

The accounts highlight opportunities for improved resource management and are guiding the design of water allocations and tariffs.

### Policy Commitment

According to Botswana's 11th National Development Plan (the country's 20-year roadmap for implementation of its Vision 2036 strategy):

"Water accounts will provide information about water supply and use (flow accounts) as well as costs and revenues (monetary accounts) in order to improve the performance indicators and management of the resource. The information will assist in the monitoring of the Integrated Water Resources Management and Water Efficiency Plan, the National Water Master Plan and the Water Policy." (Section 7.19)

# COLOMBIA

**“The construction and use of accounts will strengthen the institutional management of natural resources, and improve valuable information for better decision making processes.”**

—María Saralux Valbuena, Deputy Director for Ecosystems and Environmental Information,  
Institute for Hydrology, Meteorology and Environmental Studies (IDEAM)

ACCOUNT TYPE	STATUS	NEXT STEPS
Water	Complete: 2000-14 (assets), 2012 (flows)	<ul style="list-style-type: none"><li>Update accounts regularly</li><li>Strengthen dissemination efforts</li><li>Build capacity to use NCA</li></ul>
Water: Tota Lake Watershed	Complete: 2012	<ul style="list-style-type: none"><li>Use in policy instruments and universities' research</li></ul>
Ecosystem: Chinchíná River	Complete: 2010-14 (varies by account)	
Forest	Complete: 1990-2012	<ul style="list-style-type: none"><li>Update accounts regularly</li><li>Strengthen dissemination efforts</li><li>Build capacity to use NCA</li></ul>
Land	Complete: 2000-2009	<ul style="list-style-type: none"><li>Update accounts regularly</li><li>Strengthen dissemination efforts</li><li>Build capacity to use NCA</li></ul>
Ecosystems account in Orinoquía basin	In progress	<ul style="list-style-type: none"><li>Publish and disseminate results</li></ul>

## PRIVATE SECTOR POTENTIAL

Building on government and civil society efforts, IFC and the Natural Capital Coalition collaborated with Nespresso to better understand how coffee growers in Nespresso's Colombian supply chain impact or depend on natural capital and to assess the enabling environment for private sector uptake of natural capital approaches and valuation. One recommendation was to establish a community of practice to support organizations in applying natural capital methods, enhancing capacity, and exchanging knowledge.

## WHERE IS NCA INFORMING COLOMBIA'S POLICIES AND PLANNING?

- Colombia National Development Plan for Green Growth (2014–18): All for a New Country—Peace, Equity, Education
- Green Growth National Strategy
- Environmental Dividends of Peace
- Value of ecosystem services lost due to forest fires
- Analysis of water fee change
- CONPES 3801 (policy instrument for integrated management of Tota Lake watershed, 2014)
- Roadmap for Colombia's integration into the Organisation for Economic Co-operation and Development (OECD)
- Colombia Sustainability Leadership Program
- Watershed Use and Management Plans
- Integrated Water Resources Management Policy

## PROGRESS MADE DURING THE YEAR

### Accounts

- Updated forest accounts
- Updated Orinoquía ecosystem accounts

### Analysis

The National Planning Department and the Inter-American Development Bank coordinated a search for specific NCA applications, based on the Integrated Economic-Environmental Modeling Framework. A workshop on this theme will be held in May 2017, and bilateral technical work will continue.

### Dissemination

**3**

Presented three case studies during the WAVES Policy Forum (The Hague, November 2016):

- Integrating natural capital into peace dividend calculations
- NCA and adjusting water pricing
- Colombia's experience in policy uses of NCA

The last two presentations were also written up as articles for the WAVES publication *Better Policy through Natural Capital Accounting: Stocktaking and Ways Forward*

### Policy

Strengthened coordination between the National Planning Department and the National Administrative Department of Statistics to monitor NCA indicators under the Green Growth National Policy



## FOREST ACCOUNTING IN COLOMBIA: A CLOSER LOOK

### Challenge

Colombia is rich in natural capital, but more detailed knowledge is needed to inform economic investment decisions and build resilience to the impacts of climate change.

### What Do the Accounts Show?

They provide detailed information about the extent of Colombia's forest, any changes over time, the users of forest resources, and trends in commercial use of timber and nontimber forest products.

They also help to quantify the cost of factors that degrade the natural resource base (for example, forest fires, civil conflict).

### Why Is This Important?

This information provides a broader picture of the economic impacts of forest activities, including trade-offs across sectors, as well as the potential benefits of protecting forests.

### Policy Commitment

Results from forest, water, and land accounts are being linked directly to national statistics to improve understanding of the multiple factors impacting Colombia's natural resource base.

# COSTA RICA

**“One of the main challenges in our societies nowadays is the low appraisement of the wealth provided by natural endowments, despite the fact that natural endowments are the basis for the progress of the economies, the well-being of the citizens, and the achievement of long-term sustainability.”**

—Edgar Gutiérrez Espeleta, Minister of Environment and Energy

ACCOUNT TYPE	STATUS	NEXT STEPS	
Water		Complete: 2012 (physical assets, physical and monetary flows)	<ul style="list-style-type: none"><li>Continuously update and improve accounts (for example, include municipalities' water supply and use; improve the database classification of water users by industry code; validate methodologies)</li></ul>
Forest		Complete: 2008–13 (physical assets), 2011–14 (monetary flows)	<ul style="list-style-type: none"><li>Continuously update and improve accounts (for example, update flow accounts, validate data by analyzing additional sources of information)</li></ul>
Energy		Complete: 2011–13 (physical use, CO <sub>2</sub> emissions)	<ul style="list-style-type: none"><li>Continuously update and improve the accounts (for example, improve classifications and indicators, validate data by analyzing additional sources of information)</li></ul>



## WATER ACCOUNTING IN COSTA RICA: A CLOSER LOOK

### Challenge

Costa Rica has made significant commitments to green growth, but more information is needed to accurately reflect the value of natural resources in the economy and guide future sustainable development investments.

### What Do the Accounts Show?

Although the country has abundant water resources, they are not being used sustainably. The water accounts show inefficiencies in the supply and distribution system: in 2012, 57 percent of piped water was lost by distributors; 54 percent of supplied water was not billed (and what was billed came with a very low tariff); and only 10 percent of wastewater collected in sewers was treated.

### Why Is This Important?

It shows the need to adjust the average water tariff to guide investments by water distribution companies, and helps to determine the infrastructural changes needed to improve water supply and sewerage services. Accounts can also identify where improvements in wastewater management are most urgently needed.

### Policy Commitment

The different institutional sectors involved in water management are collaborating to strengthen water statistics and develop international indicators.



## PROGRESS MADE DURING THE YEAR

### Accounts

- Created the Environmental Statistics Unit within the Macroeconomic Statistics Department of the Central Bank of Costa Rica (BCCR; November 2016)
- Updated water, forest, and energy accounts (expected publication: June 2017)
- Collected data and analyzed economic and spatial information for ecosystems accounts (in progress)
- With ECLAC and the Ministry of Finance, collected data and analyzed economic and spatial information for an environmental protection expenditure account (in progress)

### Capacity building

- BCCR collaborated with Statistics Netherlands to strengthen existing accounts and assess the viability of new accounts (San José, Costa Rica, April 2017)
- BCCR participated in the WAVES-ECLAC workshop on SEEA energy methodology (Santo Domingo, Dominican Republic April 2017)

### Dissemination

**100**

Prepared a National Forum on the Incidence of NCA in Public Policy and Decision-Making Processes (San José, May 2017, with 100+ participants)

### Other

BCCR Prepared to host the 23rd Annual Meeting of the London Group of Environmental Accounting (San José, October 2017)

## WHERE IS NCA INFORMING COSTA RICA'S POLICIES AND PLANNING?

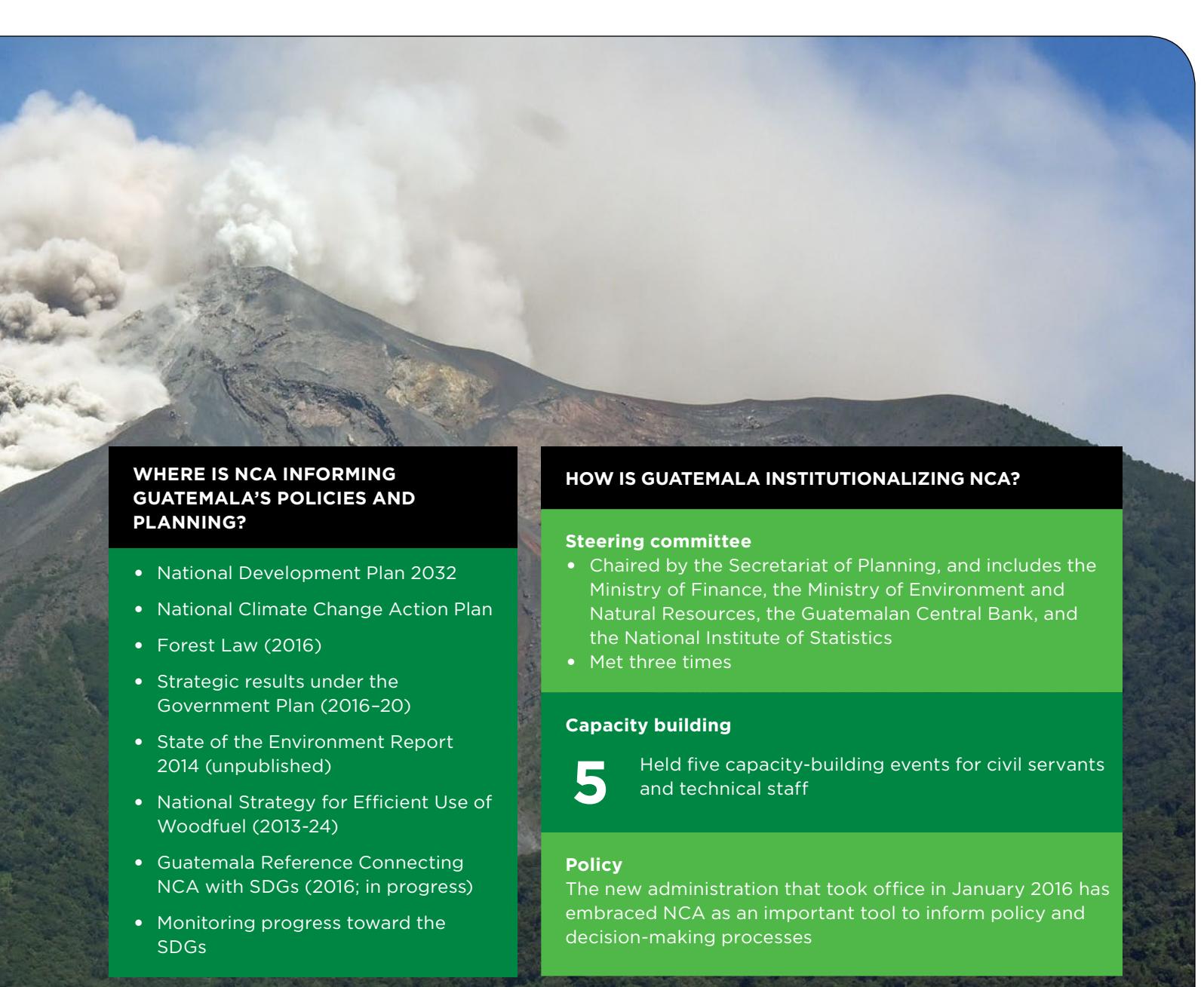
- National Plan for Integrated Management of Water Resources
- National Plan for Deforestation Reduction and Forest Development 2011–20 (REDD+ component)
- National Development Plan 2015–18
- Annual reports of the National Forestry Office
- Costa Rica's application process to the OECD
- Implementing the SDGs

# GUATEMALA

**"At present, the processes of exploitation of our natural assets can be seen in the economic performance of the country, but not so the depletion of our natural heritage. The economic valuation of environmental services originating from our different ecosystems can help us, among other things, make rational decisions about their use and guarantee their future availability."**

—Fernando Coronado Castillo, Vice-Minister of Natural Resources and Climate Change

ACCOUNT TYPE	STATUS	NEXT STEPS
Water		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Forest		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Land and ecosystems		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Energy and emissions		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Fisheries and aquaculture		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Solid waste		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Minerals		Complete: 2001–10 <ul style="list-style-type: none"><li>• Update accounts regularly</li><li>• Strengthen dissemination efforts</li><li>• Build capacity to use NCA</li></ul>
Agriculture		In progress <ul style="list-style-type: none"><li>• Continue preliminary discussion</li></ul>



**WHERE IS NCA INFORMING GUATEMALA'S POLICIES AND PLANNING?**

- National Development Plan 2032
- National Climate Change Action Plan
- Forest Law (2016)
- Strategic results under the Government Plan (2016-20)
- State of the Environment Report 2014 (unpublished)
- National Strategy for Efficient Use of Woodfuel (2013-24)
- Guatemala Reference Connecting NCA with SDGs (2016; in progress)
- Monitoring progress toward the SDGs

**HOW IS GUATEMALA INSTITUTIONALIZING NCA?**

**Steering committee**

- Chaired by the Secretariat of Planning, and includes the Ministry of Finance, the Ministry of Environment and Natural Resources, the Guatemalan Central Bank, and the National Institute of Statistics
- Met three times

**Capacity building**

**5** Held five capacity-building events for civil servants and technical staff

**Policy**

The new administration that took office in January 2016 has embraced NCA as an important tool to inform policy and decision-making processes



**FOREST ACCOUNTING IN GUATEMALA: A CLOSER LOOK**

**Challenge**  
Guatemala has a long history of undertaking NCA, but needs more detailed and regular data collection and analysis to promote green growth policies. Of particular importance are challenges regarding food security, poverty reduction, and resilience to the impacts of climate change.

**What Do the Accounts Show?**  
The forest accounts measure the extent of deforestation and identify its main causes: agricultural expansion, urban development, uncontrolled timber harvesting, and the use of fuelwood. Over the last 60 years, Guatemala has lost almost half of its forest cover.

**Why Is This Important?**  
Findings from the accounts led to a greater understanding of the benefits of forests beyond timber, as well as the regulatory deficiencies involved.

**Policy Commitment**  
NCA results led the government to strengthen the regulatory capacity of forestry agencies, and were instrumental in informing the process that led to the 2016 Forest Law. An ongoing exercise within the Secretariat of Planning is seeking to integrate NCA into the monitoring and evaluation of several strategic planning documents.

# INDONESIA

**"Indonesia is rich in natural capital, but to really understand how rich we are in natural capital we need to conduct further valuation... We need to manage our natural capital more wisely thus providing a better Indonesia to the next generation."**

—Sonny Loho, Directorate General of State Asset Management, Ministry of Finance

ACCOUNT TYPE	STATUS	NEXT STEPS
Land	Planned	<ul style="list-style-type: none"><li>• Complete draft accounts</li><li>• Finalize procurement of technical assistance for policy analysis</li></ul>
Water	Planned	<ul style="list-style-type: none"><li>• Complete draft accounts</li><li>• Finalize procurement of technical assistance for policy analysis</li></ul>

## NCA IN INDONESIA: A CLOSER LOOK

### Challenge

As a fast-growing, resource-rich country seeking to preserve its middle-income status, Indonesia has traditionally relied on natural resources for its wealth. Careful attention to how this resource base is being used, depleted, and replenished is crucial for national planning.

### What Do the Accounts Show?

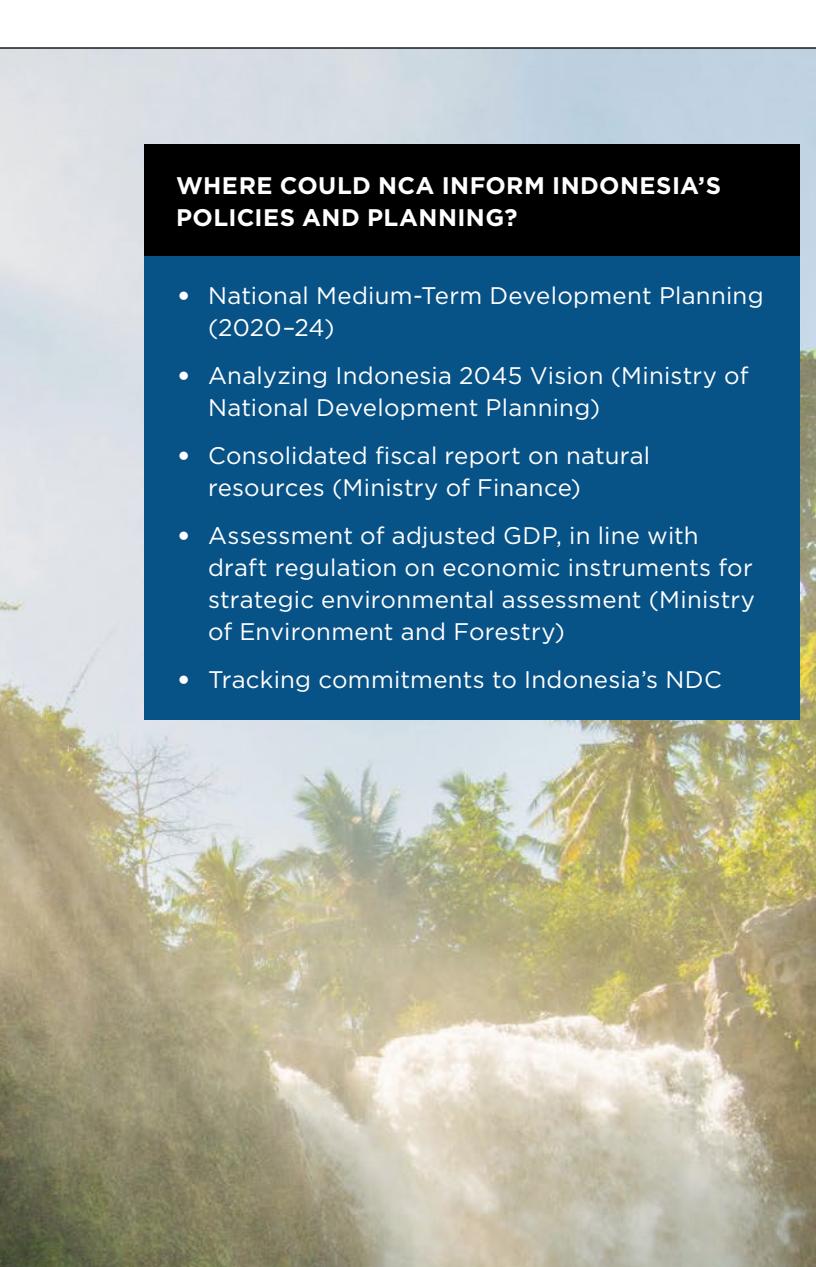
Under the Integrated System of Environmental Economic Accounts (SISNERLING), Indonesia has a long-standing legal obligation to collect environmental information. However, complete natural capital accounts could help fill information gaps and strengthen understanding of changes over time.

### Why Is This Important?

NCA can help monitor Indonesia's commitments to climate change; track the impacts of mining on the economy and the environment; inform fiscal planning (for example, determine reference price for timber); and assess the valuation of environmental damages (for example, burning of peatland forest).

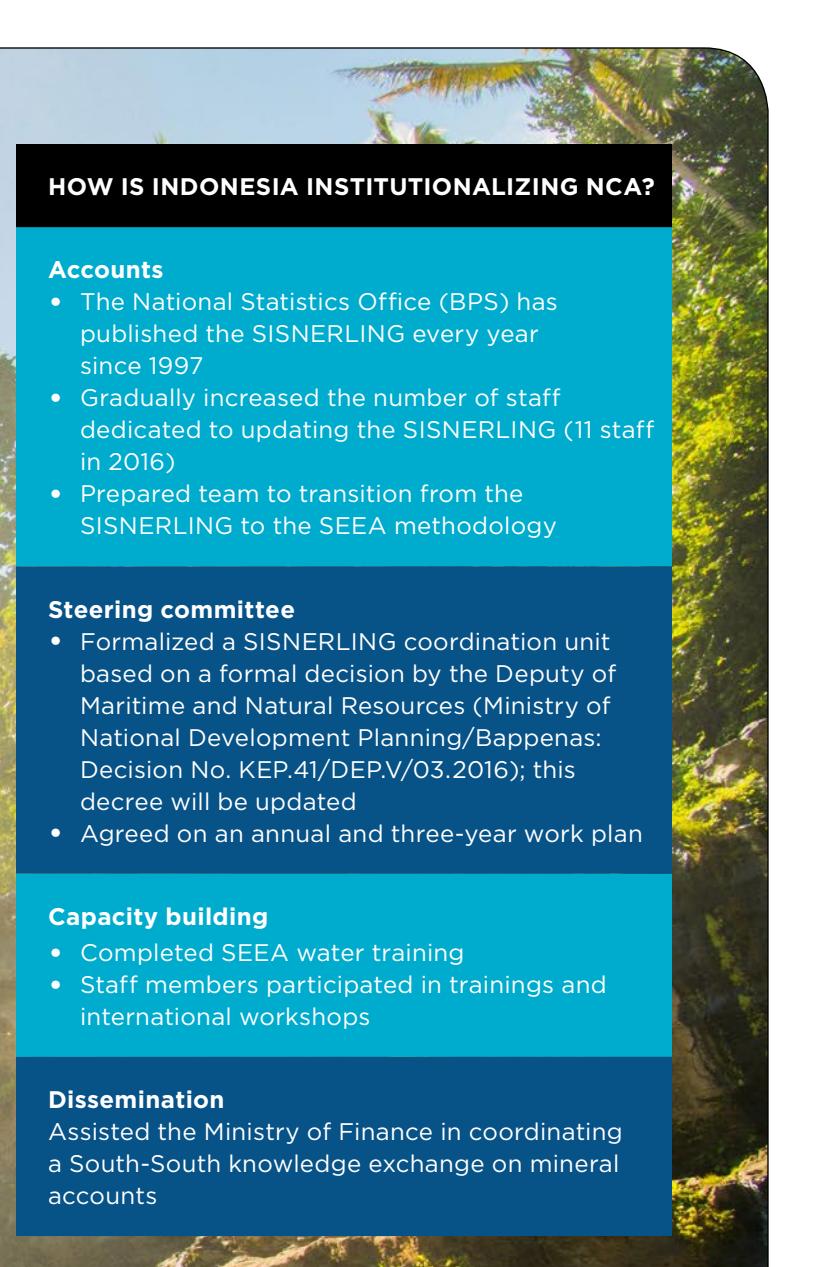
### Policy Commitment

Indonesia has been committed to data compilation under the SISNERLING since 1997. Transition to the SEEA has so far resulted in preliminary asset accounts for timber, energy and minerals; preliminary asset accounts for land use and cover in Sumatra; and a depletion-adjusted gross domestic product (GDP).



## WHERE COULD NCA INFORM INDONESIA'S POLICIES AND PLANNING?

- National Medium-Term Development Planning (2020–24)
- Analyzing Indonesia 2045 Vision (Ministry of National Development Planning)
- Consolidated fiscal report on natural resources (Ministry of Finance)
- Assessment of adjusted GDP, in line with draft regulation on economic instruments for strategic environmental assessment (Ministry of Environment and Forestry)
- Tracking commitments to Indonesia's NDC



## HOW IS INDONESIA INSTITUTIONALIZING NCA?

### Accounts

- The National Statistics Office (BPS) has published the SISNERLING every year since 1997
- Gradually increased the number of staff dedicated to updating the SISNERLING (11 staff in 2016)
- Prepared team to transition from the SISNERLING to the SEEA methodology

### Steering committee

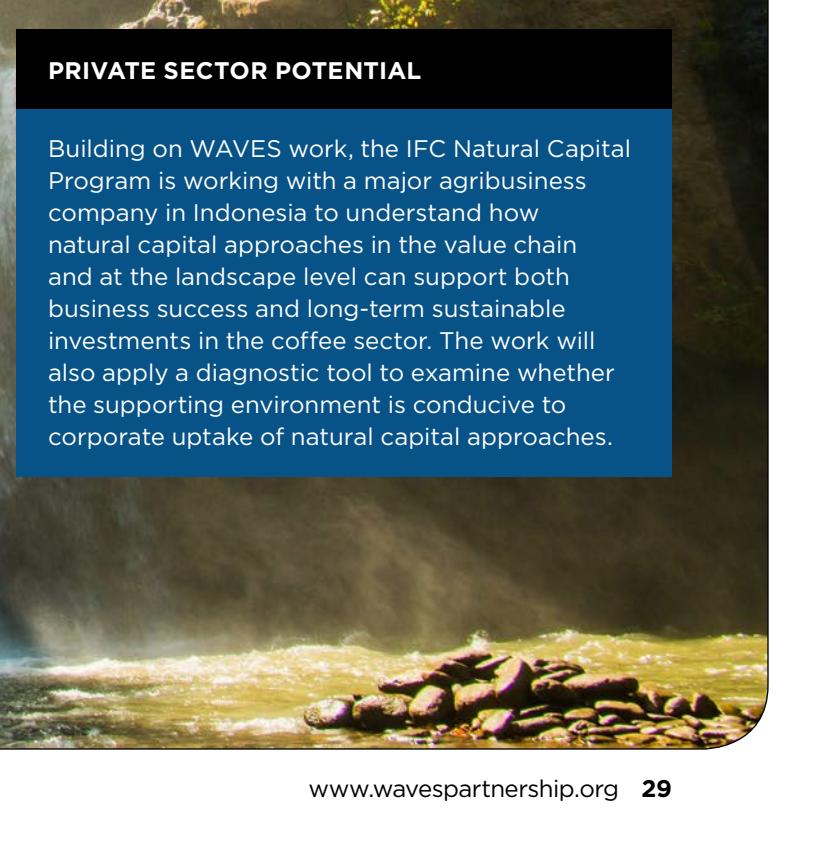
- Formalized a SISNERLING coordination unit based on a formal decision by the Deputy of Maritime and Natural Resources (Ministry of National Development Planning/Bappenas: Decision No. KEP.41/DEP.V/03.2016); this decree will be updated
- Agreed on an annual and three-year work plan

### Capacity building

- Completed SEEA water training
- Staff members participated in trainings and international workshops

### Dissemination

Assisted the Ministry of Finance in coordinating a South-South knowledge exchange on mineral accounts



## PROGRESS MADE DURING THE YEAR

- Hosted knowledge exchange with international experts (September 2016)
- Hosted first South-South Knowledge Exchange (December 8–9, 2016)
- Produced four online newsletters (400+ recipients)
- Produced two analytical papers: “Inter-Linkages between Natural Capital Accounts and Development Policies,” and “Toward Better Decisions: Linking Natural Capital Accounts to Development Policies”

## PRIVATE SECTOR POTENTIAL

Building on WAVES work, the IFC Natural Capital Program is working with a major agribusiness company in Indonesia to understand how natural capital approaches in the value chain and at the landscape level can support both business success and long-term sustainable investments in the coffee sector. The work will also apply a diagnostic tool to examine whether the supporting environment is conducive to corporate uptake of natural capital approaches.

# PHILIPPINES

**“We want to ensure that our pursuit of economic growth will not compromise our future. While numerous laws and regulations have been passed to protect, conserve and sustain our natural resources, their enforcement have been weak and inadequate. This is why we [NEDA] have been continuously supporting natural capital accounting or valuation to help Filipinos understand the true economic value of these resources and change the way we regard them.”**

—Ernesto Pernia, Secretary of the National Economic Development Authority (NEDA)

ACCOUNT TYPE	STATUS	NEXT STEPS
Adjusted macroeconomic indicators	 In progress	<ul style="list-style-type: none"><li>• Complete indicators for adjusted net national savings, adjusted net national income, produced capital, and comprehensive wealth</li></ul>
Minerals	 Complete: 2002–12 (physical and monetary assets for gold, copper, nickel, and chromite)	<ul style="list-style-type: none"><li>• Publish technical report</li><li>• Update accounts in 2017</li></ul>
Mangroves	 In progress	<ul style="list-style-type: none"><li>• Complete national accounts for 2010 and 2015 (cover extent, biomass, carbon)</li><li>• Complete pilot accounts for the same period (cover extent, protective services, fish production enhancement, biomass, carbon, recreational services)</li><li>• Complete modeling and valuation of protective services of mangroves</li><li>• Publish technical reports</li></ul>
Ecosystems: Laguna de Bay Basin	 Complete: 2001–14 (varies by account)	<ul style="list-style-type: none"><li>• Update water accounts and computation of resource rent for water abstraction</li></ul>
Ecosystems: Southern Palawan	 Complete: 2001–14 (varies by account)	
Recreational services: Palawan	 In progress	<ul style="list-style-type: none"><li>• Map physical unit for caves and beaches</li><li>• Complete modeling and valuation of recreational opportunity spectrum</li></ul>
Ecosystems: National level (upscaling)	 In progress	<ul style="list-style-type: none"><li>• Validate radar use in enhancing classification of perennial crops including oil palm, coconut, coffee, rubber, cocoa, and sugar cane</li><li>• Complete ecosystem extent map and account</li></ul>

## WHERE IS NCA INFORMING THE PHILIPPINES' POLICIES AND PLANNING?

- Philippine Development Plan (2011–16) Mid-Term Update (2014)
- Philippine Development Plan 2017–22
- Philippine Statistical Development Program 2011–17
- Laguna de Bay Basin Master Plan: 2016 and Beyond (Toward Climate-Resiliency and Sustainable Development)
- National Climate Change Action Plan 2011–28\*
- NCA Institutionalization Roadmap 2017 and Beyond (in progress)
- Executive Order 406 of 1997 institutionalizing environmental and natural resources accounting\*
- Mining policy (Executive Order 79) 2012

\* Issued before the start of the WAVES global partnership.

## PROGRESS MADE DURING THE YEAR

### Accounts

- Completed and published ecosystem accounts (for Laguna de Bay Basin and Southern Palawan) and related technical reports
- Extended both ecosystem accounts to include recreational services (Southern Palawan) and water accounts/rate of return for water abstraction (Laguna de Bay Basin)
- Published mineral accounts
- Developed mangrove accounts
- Developed macroeconomic indicators
- Began developing a national-level ecosystem extent account

### Capacity building

**7** Held seven trainings on various aspects of institutionalizing ecosystem accounting

### Dissemination

Hosted National Conference on NCA (March 30–31, 2017) in Pasig City, Philippines

## PRIVATE SECTOR POTENTIAL

The IFC Natural Capital Program is exploring opportunities to understand how natural capital valuation might influence business decisions and align with national NCA work in the Philippines, taking a “ridge-to-reef” approach with firms in the tourism and fisheries sectors, and to help identify natural capital dependencies and solutions in the energy sector.



## ECOSYSTEM ACCOUNTING IN THE PHILIPPINES: A CLOSER LOOK AT LAGUNA DE BAY BASIN AND SOUTHERN PALAWAN

### Challenge

Resource demand and pollution are growing due to urbanization, putting pressure on ecosystems. In Laguna de Bay Basin, pollution is directly reducing the quality and quantity of fish catch, while demand for water is rising. In Southern Palawan, there are competing demands regarding forests, agriculture, and fisheries.

### What Do the Accounts Show?

Among other findings, they show that: Laguna Lake is an important source of food, jobs, and revenues; Southern Palawan is experiencing declining coral reefs and mangrove habitats; and crops are vulnerable to threatened water sources linked to deforestation.

### Why Is This Important?

The accounts can inform fair fees for commercial activities, prioritize ecosystem protection and regeneration efforts, and inform carbon sequestration efforts and potential benefit-sharing agreements with indigenous communities.

### Policy Commitment

The Laguna Lake Development Authority is exploring water pricing options and a lakeshore management plan, while local government units are developing a scorecard to assess environmental conditions. In Southern Palawan, accounts could support carbon sequestration initiatives.

# RWANDA

**"Natural capital accounting can add value in Rwanda's national development planning process by raising attention on economically important natural resource sectors. We expect that the results on Natural Capital Accounts for land can add value in our planning for sustainable development by providing indicators and trend analysis to track performance."**

—Vincent Biruta, Minister of Natural Resources

ACCOUNT TYPE	STATUS	NEXT STEPS
Land	 Complete: 1990–2015 (varies by account)	<ul style="list-style-type: none"><li>Finalize and publish accounts and related documents</li></ul>
Minerals	 Preliminary results: 2012–15	<ul style="list-style-type: none"><li>Conduct further analysis</li><li>Finalize and publish accounts and related documents</li></ul>
Water	 Preliminary results: 2012–15	<ul style="list-style-type: none"><li>Conduct further analysis</li><li>Finalize and publish accounts and related documents</li></ul>

## WHERE COULD NCA INFORM RWANDA'S POLICIES?

- Third Economic and Development for Poverty Reduction Strategy (2018–22)
- Vision 2020
- Land Use and Development Master Plan (2010–20)
- National Water Resources Master Plan (2012)
- Green Growth and Climate Resilience Strategy (2011–50)
- Environment and Natural Resources Result-Based Monitoring and Evaluation System (2015–18)
- Monitoring of targets under the SDGs (2030)

## PRIVATE SECTOR POTENTIAL

The IFC Natural Capital Program is exploring natural capital impacts and dependencies with a corporate partner in the tea sector—Rwanda's second most important export earner and a vital source of income and jobs. An important aspect is to understand the business conditions that could hinder or facilitate the adoption of natural capital valuation in private sector decision-making, including how information efforts supported by WAVES might be useful in understanding the natural capital landscape.

HOW IS RWANDA INSTITUTIONALIZING NCA?	PROGRESS MADE DURING THE YEAR
<p><b>Government unit</b> Due to internal structural changes, the NCA unit is now hosted by the Ministry of Natural Resources, with the permanent secretary as the new chairperson</p>	<p><b>Accounts</b></p> <ul style="list-style-type: none"> <li>Completed preliminary land accounts</li> <li>Produced preliminary results for mineral and water accounts</li> </ul>
<p><b>Steering committee</b></p> <p><b>15</b></p> <ul style="list-style-type: none"> <li>Composed of 15 people from at least seven different agencies and institutions</li> <li>Meets quarterly to assess progress and challenges and provide recommendations</li> </ul>	<p><b>Dissemination</b> Hosted National Workshop on Natural Capital Accounting (Kigali, February 16, 2017) to disseminate results from the land and water accounts</p>
	<p><b>Policy applications</b> Developed a land use trade-off tool to better understand the costs and benefits of different land uses, such as mining and agriculture; the tool was refined through case studies</p>



## LAND ACCOUNTING IN RWANDA: A CLOSER LOOK

### Challenge

Agriculture is central to the economy and to the majority of livelihoods in Rwanda, but land is becoming an increasingly in-demand resource due to population growth, mounting pressure on natural ecosystems, and the development of other sectors (such as mining).

### What Do the Accounts Show?

Information on land use and land cover reveals that the majority of land is used for agriculture or forests. However, while cropland is expanding, woodland is declining.

### Why Is This Important?

The sustainable use of land and natural resources is critical to meeting Rwanda's green growth objectives. The accounts will guide the development of updated land management plans and help navigate trade-offs in land use.

### Policy Commitment

As Minister of Natural Resources Vincent Biruta noted, "Achieving our national economic growth goals will require the wise use of our land, water, and mineral resources. Natural capital accounting is a tool that can inform our Third Economic Development and Poverty Reduction Strategy planning process, as well as our national climate change strategies and plans."

4

## BROADENING WAVES' WORK WITH COUNTRIES





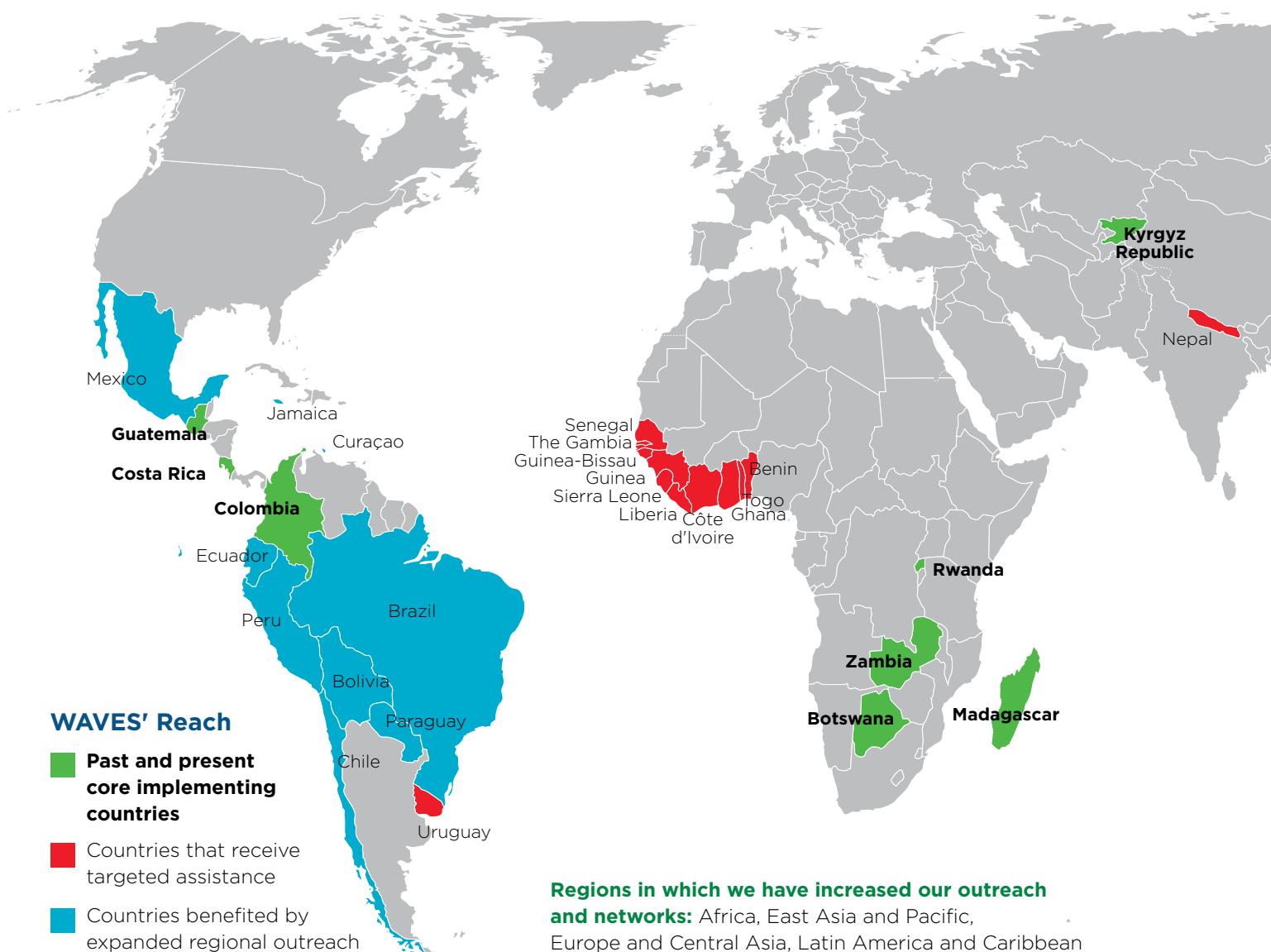
Zambia

WAVES expanded its presence in the past year in both old and new ways. It chose Zambia and the Kyrgyz Republic as two new core implementing countries and offered them traditional WAVES support by providing the tools needed to make NCA a systematic part of how their governments work. To further broaden its reach, the WAVES+ phase introduced a regional engagement program that aims to not only meet the demand for support beyond the core implementing countries, but also to boost the number of countries interested in working on NCA.

## Zambia

Zambia was the first new core implementing country in the WAVES+ phase. The government of Zambia expressed interest in October 2016 in developing natural capital accounts to better manage its resources, including arable land, minerals, forests, water, fisheries, and wetlands. During a scoping mission in November 2016, the WAVES team met with a number of ministries and agencies and discussed policy issues as well as data availability for the prospective accounts' development. The government submitted a formal request to become a WAVES country in January 2017.

Next, the WAVES team conducted a preparation mission to Zambia in February 2017. The goals were to prioritize the types of accounts to develop, and identify two to three accounts to be developed in the first phase of the program. Together with the



government, the WAVES team organized a stakeholder consultation with representatives from relevant ministries and agencies. The starting point for the discussions was to decide which policies and plans the accounts should inform. In the end, the group decided that the priority accounts would be

- **Land accounts**, providing information about changes in land cover, for example, regarding forests, wetlands, and farmland;
- **Water accounts**, including water supply, water use, and water quality; and

- **Forest accounts**, including timber production as well as nontimber forest products.
- The accounts would feed into a number of government policies and plans that would be developed and further strengthened, including:
- Vision 2030, the socioeconomic development plan that sets out goals and targets for Zambia to become “a prosperous middle-income nation” by 2030
  - Zambia’s Seventh National Development Plan (2017–21), specifically its agenda for economic diversification away from dependence on mining

and toward more focus on the agriculture, tourism, and forestry sectors

- The country’s implementation of its REDD+ strategy for sustainable forestry

The government also identified which Zambian agencies would be involved in each of the accounts and developed a detailed action plan for the first 12 months. The WAVES team discussed the organizational setup with the lead ministry, the Ministry of Development Planning. As of the spring 2017, the government had appointed focal persons at the Ministry of Development Planning



and the National Statistical Office, and a steering committee including relevant ministries had been formed.

WAVES' engagement was designed to align with the World Bank's Integrated Forest Landscape Project in Zambia.

### Kyrgyz Republic

In spring 2017, the Kyrgyz Republic was chosen as a new WAVES core implementing country. A WAVES team conducted a scoping mission in April to discuss and refine the scope and approach for its support.

Based on the government's priority sectors, accounts for forests and ecosystems—including

tourism—were selected for the initial work phase of three to four years. The objective of WAVES' technical assistance would be to inform development planning and policy analysis regarding the sustainable use of critical natural resources, by

- Developing accounts for priority natural resources, beginning with forests and selected ecosystems;
- Analyzing the impact of different scenarios for natural resource management and revenue sharing on the income development and economic development of two types of communities—those that depend on resources and those that use resources;
- Developing and constructing ecosystem accounts for yet-to-be-determined geographic regions, and analyzing the trade-offs associated with different scenarios for resource and ecosystem use in those regions; and
- Building the government's capacity to integrate the priority natural capital accounts into the broader framework of its national economic accounts.

There was ongoing work supported by the World Bank in the Kyrgyz Republic, to serve as a basis for and be enhanced by the planned WAVES work. WAVES' assistance was expected to build on the Kyrgyz Republic's Integrated Forest Ecosystem Management Project and strengthen the government's ability to assess forest and other natural resources in forest lands owned and managed by the state, as well as in municipal forests. WAVES would achieve these goals by helping the government update its national forest inventory; establishing a forest management information system; and more generally, by using NCA to boost understanding

of the value of ecosystem services. WAVES' plans included providing consultants to support the design and analysis of NCA in the Kyrgyz Republic, and helping to pilot an approach for NCA with the State Agency for Environmental Protection and Forests and the National Statistical Committee.

WAVES' work would capitalize on experiences and lessons learned under an ongoing World Bank project, the Kyrgyz Republic Implementation of the National Strategy for Development of Statistics, or KG STAT. This project aimed to not only modernize the production and dissemination of statistical data and data storage infrastructure, but also to help develop higher-quality sectoral statistics that would complement the planned WAVES activities. Future opportunities for synergies and resource sharing between KG STAT and WAVES would be explored and maximized.

Successful implementation of WAVES' assistance would enable the Kyrgyz government and its partners to

- Support the Ministry of Finance and the Ministry of Economy in their development of strategies and policies for sustainable development and a shift toward a green economy;
- Regularly produce the priority accounts for forests to inform sector-level development planning and policy analysis, including the ongoing forest sector reform and related policies of a variety of ministries that oversee several sectors, including: the State Agency for Environmental Protection and Forests; the Ministry of Agriculture, Food Security, and Land Reclamation; the National Statistical Committee; the Ministry of Emergencies' Hydro-Meteorological Agency; the Ministry of Tourism; and the Ministry of Industry's Energy and Subsoil State Committee;

- Extract policy recommendations for natural resource accounting and management in case study areas for yet-to-be-determined ecosystem accounts, and develop a framework for replicating this accounting and management; and
- Sustain the management and the integration into national economic accounts of the priority natural capital accounts.

## Regional Engagement Program

The new regional program in WAVES+ included two instruments to improve country outreach.

The first instrument consisted of **regional cooperation programs** intended to develop knowledge-sharing and capacity-building activities in close coordination with regional partners. In the past year, work began in Latin America and the Caribbean, with activities such as webinars and South-South exchanges that benefited many countries, including Bolivia, Brazil, Chile, Dominican Republic, Ecuador, Jamaica, Mexico, Paraguay, Peru, and Uruguay. WAVES leveraged its resources by partnering with other organizations that have their own environmental accounting programs, such as ECLAC.

The second instrument was a new **targeted technical assistance** program, offered as a complement to existing World Bank environmental programs. WAVES provided specialized assistance to both individual countries and country groups to strengthen their ability to collect data on natural capital's contributions to their economies, and to use that information to inform and shape their government policies. WAVES provided this assistance as part of World Bank programs in three regions:

- **Latin America and the Caribbean.** WAVES joined a World Bank program that



In spring 2017, the Kyrgyz Republic was chosen as a new WAVES core implementing country. A WAVES team conducted a scoping mission in April to discuss and refine the scope and approach for its support.



supports Uruguay in a policy dialogue about green growth. To identify alternative ways to promote the sustainable use of Uruguay's natural resources, WAVES worked on water quality/quantity accounts in the Santa Lucia watershed—the country's most important watershed—and agriculture-environmental accounts at the national level that provide data on the contribution of

ecosystems to the agricultural sector, as well as information on how the economy affects natural capital.

- **South Asia.** WAVES provided funding for Nepal to create forest accounts—to capture the value of the market and nonmarket contributions of the country's forests and their link to Nepal's economy—to inform the country's forest policies.



Kyrgyz Republic

This work contributed to World Bank support for Nepal's forest sector that was financed by the Forest Investment Program and the Forest Carbon Partnership Facility, two World Bank-led climate investment funds. These efforts would allow Nepal to engage in and benefit from the emerging REDD+ program as part of the international climate agenda.

- **West Africa.** WAVES worked with a regional World Bank platform, West Africa Coastal Areas Management Program (WACA), which promoted sustainable and integrated management practices for coastal and marine ecosystems in Benin, Côte d'Ivoire, Mauritania, São Tomé and Príncipe, Senegal, and Togo. WAVES helped the WACA program determine the feasibility of developing coastal

natural capital accounts in these countries, and supported outreach and awareness-raising efforts for NCA in the region. This work could become part of a planned IDA project for West Africa.

In the future, WAVES hoped to reach even more countries with targeted technical assistance, which had proven to be a practical and useful tool.

5

# FINANCIAL REPORT





Rwanda

The original WAVES Multidonor Trust Fund (MDTF) was set up in March 2012 with an initial contribution of approximately US\$9.4 million\* from eight development partners. As of March 31, 2017 (five years into the program), \$21,375,944 in contributions had been received (92 percent) of the total pledged commitment of \$23,170,998 from nine development partners.

In November 2015, the steering committee endorsed WAVES+, and the United Kingdom pledged £4 million in funding. A new WAVES+ MDTF was set up in November 2016, with the first tranche of £1 million (equivalent to \$1.2 million) of U.K. funding.

The available funds for the WAVES and WAVES+ MDTFs, including investment income and administrative fees, totaled \$21,089,700 (WAVES) and \$1,236,514 (WAVES+) as of March 31, 2017 (table 1 presents the financial summary). Ninety-six percent of these available funds had been allocated to disbursing grants (\$20,566,899 for WAVES and \$810,000 for WAVES+). Disbursements and funds committed totaled 89 percent of the allocated funds (\$18,879,637 for WAVES and \$181,889 for WAVES+).

The total unallocated funds at the Trustee Level totaled \$949,239 (\$522,806 for WAVES and \$426,433 for WAVES+), while total available funds at the Grant Level totaled \$2,315,373 (\$1,687,262 for WAVES and \$628,111 for WAVES+).

\* All dollar amounts are U.S. dollars unless otherwise indicated.

**TABLE 1: FINANCIAL SUMMARY (AS OF MARCH 31, 2017)**

	WAVES Trustee TF071860	WAVES+ Trustee TF072708	Total	In %
<b>A. Total donor pledges, per signed Administration Agreement</b>	<b>23,170,998</b>	<b>4,962,500</b>	<b>28,133,498</b>	
United Kingdom: DFID	3,747,042	4,962,500	8,709,542	
France: Agence Française de Développement	1,051,046	-	1,051,046	
Norway: Ministry of Foreign Affairs	3,005,228	-	3,005,228	
Germany: GIZ on behalf of BMZ	2,255,142	-	2,255,142	
Netherlands: Ministry of Foreign Affairs	2,857,142	-	2,857,142	
Denmark: Royal Ministry of Foreign Affairs	1,717,482	-	1,717,482	
European Union: European Commission	3,041,249	-	3,041,249	
Japan: Ministry of Finance	2,996,667	-	2,996,667	
Switzerland: Federal Department of Economic Affairs, Education, and Research	2,500,000	-	2,500,000	
<b>B. Actual funds received from donors</b>	<b>21,375,944</b>	<b>1,234,400</b>	<b>22,610,344</b>	<b>80%</b>
United Kingdom: DFID	3,747,042	1,234,400	4,981,442	
France: Agence Française de Développement	1,051,046	-	1,051,046	
Norway: Ministry of Foreign Affairs	2,656,037	-	2,656,037	
Germany: GIZ	2,255,142	-	2,255,142	
Netherlands: Ministry of Foreign Affairs	2,857,142	-	2,857,142	
Denmark: Royal Ministry of Foreign Affairs	1,717,482	-	1,717,482	
European Union: European Commission	2,245,386	-	2,245,386	
Japan: Ministry of Finance	2,996,667	-	2,996,667	
Switzerland: Federal Department of Economic Affairs, Education, and Research	1,850,000	-	1,850,000	
<b>C. Other adjustments</b>	<b>(286,244)</b>	<b>2,114</b>	<b>(284,131)</b>	
Administrative fees to World Bank central units (-) <sup>a</sup>	(427,519)	-	(427,519)	
Investment income (+)	141,275	2,114	143,388	
<b>D. Total funds available (B+C)</b>	<b>21,089,700</b>	<b>1,236,514</b>	<b>22,326,213</b>	
<b>E. Grants: Allocations</b>	<b>20,566,899</b>	<b>810,000</b>	<b>21,376,899</b>	<b>96%</b>
WAVES	20,566,899		20,566,899	98%
WAVES+		810,000	810,000	66%
<b>F. Grants: Disbursements &amp; commitments</b>	<b>18,879,637</b>	<b>181,889</b>	<b>19,061,526</b>	<b>89%</b>
Funds disbursed	18,008,520	103,883	18,112,403	85%
Funds committed to be disbursed—BETFs	774,303	78,006	852,309	4%
Funds committed to be disbursed—RETFs	96,814	-	96,814	0%
<b>G. Funds available (Trustee &amp; Grant Level)</b>	<b>2,210,068</b>	<b>1,054,544</b>	<b>3,264,612</b>	<b>15%</b>
at Grant Level after disbursements & commitments	1,687,262	628,111	2,315,373	
at Trustee Level after allocation to grants	522,806	426,433	949,239	

Source: My Trust Fund database, April 11, 2017.

Note: **DFID** = Department for International Development; **BETF** = bank executed trust fund; **GIZ** = Deutsche Gesellschaft für Internationale Zusammenarbeit; **BMZ** = Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung; **RETF** = recipient executed trust fund.

a. Standard 2 percent fees deducted by the World Bank as per the agreement (annex 2 para 3.1).

Table 2 highlights the total pledges from the nine development partners for the WAVES and WAVES+ MDTFs, in both the donors' currencies and in U.S. dollars, as of March 31, 2017.

At that time, 92 percent of the pledged contributions had been paid into the WAVES MDTFs. The remaining unpaid contributions of 8 percent (approximately \$1.8 million) were due by the end of 2019. Unpaid contributions to WAVES+ stood at \$3,728,100, and were supposed to be paid evenly across fiscal years (FY) 2018–20.

**TABLE 2: DONOR PLEDGE AND CONTRIBUTION SUMMARY (AS OF MARCH 31, 2017)**

Donor	Currency	Pledges		Contribution made		Outstanding contribution		
		Amount in contributor currency	Amount in US\$ <sup>a</sup>	Paid in contributor currency	Paid in US\$ <sup>a</sup>	Unpaid in contributor currency	Unpaid in US\$ <sup>a</sup>	Paid in %
United Kingdom: DFID	GBP	2,402,424	3,747,042	2,402,424	3,747,042	—	—	100%
France: Agence Française de Développement	EUR	811,556	1,051,046	811,556	1,051,046	—	—	100%
Norway: Ministry of Foreign Affairs	NOK	20,000,000	3,005,228	17,000,000	2,656,037	3,000,000	349,190	85%*
Germany: GIZ on behalf of BMZ	EUR	1,787,000	2,255,142	1,787,000	2,255,142	—	—	100%
Netherlands: Ministry of Foreign Affairs	USD	2,857,142	2,857,142	2,857,142	2,857,142	—	—	100%
Denmark: Royal Ministry of Foreign Affairs	DKK	10,000,000	1,717,482	10,000,000	1,717,482	—	—	100%
European Union: European Commission	EUR	2,500,000	3,041,249	1,750,000	2,245,386	750,000	795,863	70%*
Japan: Ministry of Finance	USD	2,996,667	2,996,667	2,996,667	2,996,667	—	—	100%
Switzerland: Federal Department of Economic Affairs, Education, and Research	USD	2,500,000	2,500,000	1,850,000	1,850,000	650,000	650,000	74%*
<b>Subtotal WAVES</b>		<b>23,170,997</b>		<b>21,375,944</b>		<b>1,795,053</b>	<b>92%</b>	
United Kingdom: DFID	GBP	4,000,000	4,962,500	1,000,000	1,234,400	3,000,000	3,728,100	25%*
<b>Subtotal WAVES+</b>		<b>4,962,500</b>		<b>1,234,400</b>		<b>3,728,100</b>	<b>25%</b>	
<b>Total WAVES &amp; WAVES+</b>		<b>28,133,497</b>		<b>22,610,344</b>		<b>5,523,153</b>	<b>80%</b>	

Source: My Trust Fund database, April 11, 2017.

Note: **DFID** = Department for International Development; **GIZ** = Deutsche Gesellschaft Fur Internationale Zusammenarbeit;

**BMZ** = Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung

a. Will fluctuate with exchange rate changes.

\*Not paid in full as of March 31, 2017.

In FY17, WAVES country work focused on the three recent additions of Guatemala, Indonesia, and Rwanda, as well as on the Philippines, where the WAVES program was extended into FY17 because of a recipient executed trust fund component. In the remaining original countries of Botswana, Colombia, and Costa Rica, WAVES supported consolidation activities and work on roadmaps beyond WAVES. Program support to Madagascar ended. The WAVES MDTF also supported preliminary country work and country communications. Country allocations (disbursed, committed, and fund balance) totaled \$11,348,664 (55 percent of the total), while funding for global work, including regional workshops, reached \$7,817,421 (38 percent) (table 3). Total expenditures and commitments reached \$18,879,637 as March 31, 2017.

The WAVES+ MDTF supported preliminary country work in the Kyrgyz Republic and new country engagement in Zambia, with a total allocation of \$400,000 (49 percent of the total). Allocations for regional work, including targeted technical assistance of \$110,000 (13 percent), amounted to \$260,000 (32 percent).

while the global allocation was \$150,000 (19 percent). Total expenditures and commitments came to \$181,889 as of March 31, 2017.

Both WAVES and WAVES+ MDTFs supported country-level, regional-level, and global-level activities.

**TABLE 3: CURRENT SUMMARY OF DISBURSEMENTS AND COMMITMENTS (IN US\$; AS OF MARCH 31, 2017)**

	WAVES				
	Current allocation	Disbursed	Committed	Disbursed & committed	Available balance
<b>Country work</b>					
Original CICs					
Botswana	1,674,000	1,619,184	1,525	1,620,709	53,291
Colombia	1,640,441	1,640,441	—	1,640,441	—
Costa Rica	595,631	595,631	—	595,631	—
Madagascar	736,216	736,216	935	737,151	(935)
Philippines	2,340,000	2,037,935	251,233	2,289,168	50,832
Added CICs					
Guatemala	750,000	482,506	5,180	487,686	262,314
Indonesia	1,325,000	474,589	26,587	501,176	823,824
Rwanda	1,277,376	1,050,578	146,713	1,197,291	80,085
New CICs					
Zambia					
Preliminary country-level engagement	350,000	266,128	44,508	310,636	39,364
Preliminary country communications work	660,000	520,941	—	520,941	139,059
<b>Subtotal country activities</b>	<b>11,348,664</b>	<b>9,424,149</b>	<b>476,681</b>	<b>9,900,830</b>	<b>1,447,834</b>
<b>Regional work</b>					
TTA: Uruguay					
TTA: WACA					
Regional workshops/work	750,000	738,484	11,265	749,749	251
<b>Subtotal regional activities</b>	<b>750,000</b>	<b>738,484</b>	<b>11,265</b>	<b>749,749</b>	<b>251</b>
<b>Global work</b>					
WAVES global knowledge sharing (prior to FY15)—including training workshops	1,920,739	1,920,739	—	1,920,739	—
WAVES Methodology Development & Policy Applications for Ecosystem Accounting trust fund	2,050,000	1,895,888	154,060	2,049,948	52
Annual partnership forums	850,000	837,173	—	837,173	12,827
Global communications strategy	1,250,000	1,102,933	141,765	1,244,698	5,302
Engagement with the wider NCA community & high-level events	846,682	681,198	39,530	720,728	125,954
Changing Wealth of Nations 2016	150,000	55,418	33,580	88,998	61,002
<b>Subtotal global work program</b>	<b>7,067,421</b>	<b>6,493,349</b>	<b>368,935</b>	<b>6,862,284</b>	<b>205,137</b>
Project administration	1,400,814	1,352,538	14,236	1,366,774	34,040
<b>Total</b>	<b>20,566,899</b>	<b>18,008,520</b>	<b>871,117</b>	<b>18,879,637</b>	<b>1,687,262</b>
Funds available in the Trustee Level but not yet allocated to the grants above					522,806
					<b>2,210,068</b>

Source: SAP Trust Funds Report, April 11, 2017.

Note: **CICs** = core implementing countries; **TTA** = targeted technical assistance.

**TABLE 3: CURRENT SUMMARY OF DISBURSEMENTS AND COMMITMENTS (continued)**

WAVES+					
Current allocation	Disbursed	Committed	Disbursed & committed	Available balance	Total: WAVES & WAVES+
				—	53,291
				—	—
				—	—
				—	(935)
				—	50,832
				—	262,314
				—	823,824
				—	80,085
250,000	48,565	28,666	77,231	172,769	172,769
150,000	38,155	5,000	43,155	106,845	146,209
<b>400,000</b>	<b>86,720</b>	<b>33,666</b>	<b>120,386</b>	<b>279,614</b>	<b>1,727,448</b>
				—	—
50,000	8,901	21,840	30,741	19,259	19,259
60,000	384	22,500	22,884	37,116	37,116
150,000	2,738	-	2,738	147,262	147,513
<b>260,000</b>	<b>12,023</b>	<b>44,340</b>	<b>56,363</b>	<b>203,637</b>	<b>203,888</b>
—	—	—	—	—	—
50,000	—	—	—	50,000	50,052
100,000	5,140	—	5,140	94,860	107,687
—	—	—	—	—	5,302
—	—	—	—	—	125,954
—	—	—	—	—	61,002
<b>150,000</b>	<b>5,140</b>	<b>—</b>	<b>5,140</b>	<b>144,860</b>	<b>349,997</b>
			—	—	34,040
<b>810,000</b>	<b>103,883</b>	<b>78,006</b>	<b>181,889</b>	<b>628,111</b>	<b>2,315,373</b>
				426,432	949,238
				<b>1,054,543</b>	<b>3,264,611</b>

Table 4 presents the funds disbursement by expenditure category from FY12 through FY17, by the WAVES and WAVES+ MDTFs. The table shows that expenditures peaked in FY16.

Over the course of the program, staff and consultant costs (35 percent and 40 percent, respectively) accounted for 75 percent of total expenditure for the WAVES MDTF. Travel costs represented 16 percent of expenditures, while the remaining costs were distributed across contractual services, media workshops, recipient executed trust fund disbursements, and other miscellaneous costs. Staff costs (62 percent) and travel costs (30 percent) have accounted for the majority of WAVES+ MDTF disbursements.

**TABLE 4: DISBURSEMENTS BY EXPENSE CATEGORY (IN US\$; AS OF MARCH 31, 2017)**

	World Bank 12-month fiscal year (July-June)						Total	%
	FY17	FY16	FY15	FY14	FY13	FY12		
<b>WAVES</b>								
Staff costs	871,248	1,638,425	1,293,613	1,625,808	739,277	144,430	6,312,800	35%
Consultant fees	926,946	2,326,670	2,107,427	1,405,665	422,335		7,189,043	40%
Travel expenses	282,953	664,208	761,179	719,269	411,297		2,838,907	16%
Media workshop	81,799	178,055	165,317	127,285	131,449		683,904	4%
Contractual services	57,089	45,518	37,904	47,698	6,821		195,031	1%
Disbursements of RETF grant	307,410	107,439	188,952	—	—		603,801	3%
Other <sup>a</sup>	16,026	67,280	57,840	28,815	15,072		185,034	1%
<b>Subtotal WAVES</b>	<b>2,543,471</b>	<b>5,027,595</b>	<b>4,612,232</b>	<b>3,954,540</b>	<b>1,726,251</b>	<b>144,430</b>	<b>18,008,520</b>	<b>99%</b>
<b>WAVES+</b>								
Staff costs	64,800						64,800	62%
Travel expenses	31,191						31,191	30%
Media workshop	7,892						7,892	8%
<b>Subtotal WAVES+</b>	<b>103,883</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>103,883</b>	<b>1%</b>
<b>Total WAVES &amp; WAVES+</b>	<b>2,647,354</b>	<b>5,027,595</b>	<b>4,612,232</b>	<b>3,954,540</b>	<b>1,726,251</b>	<b>144,430</b>	<b>18,112,403</b>	

Source: My Trust Fund database, April 11, 2017.

Note: **RETF** = recipient executed trust fund.

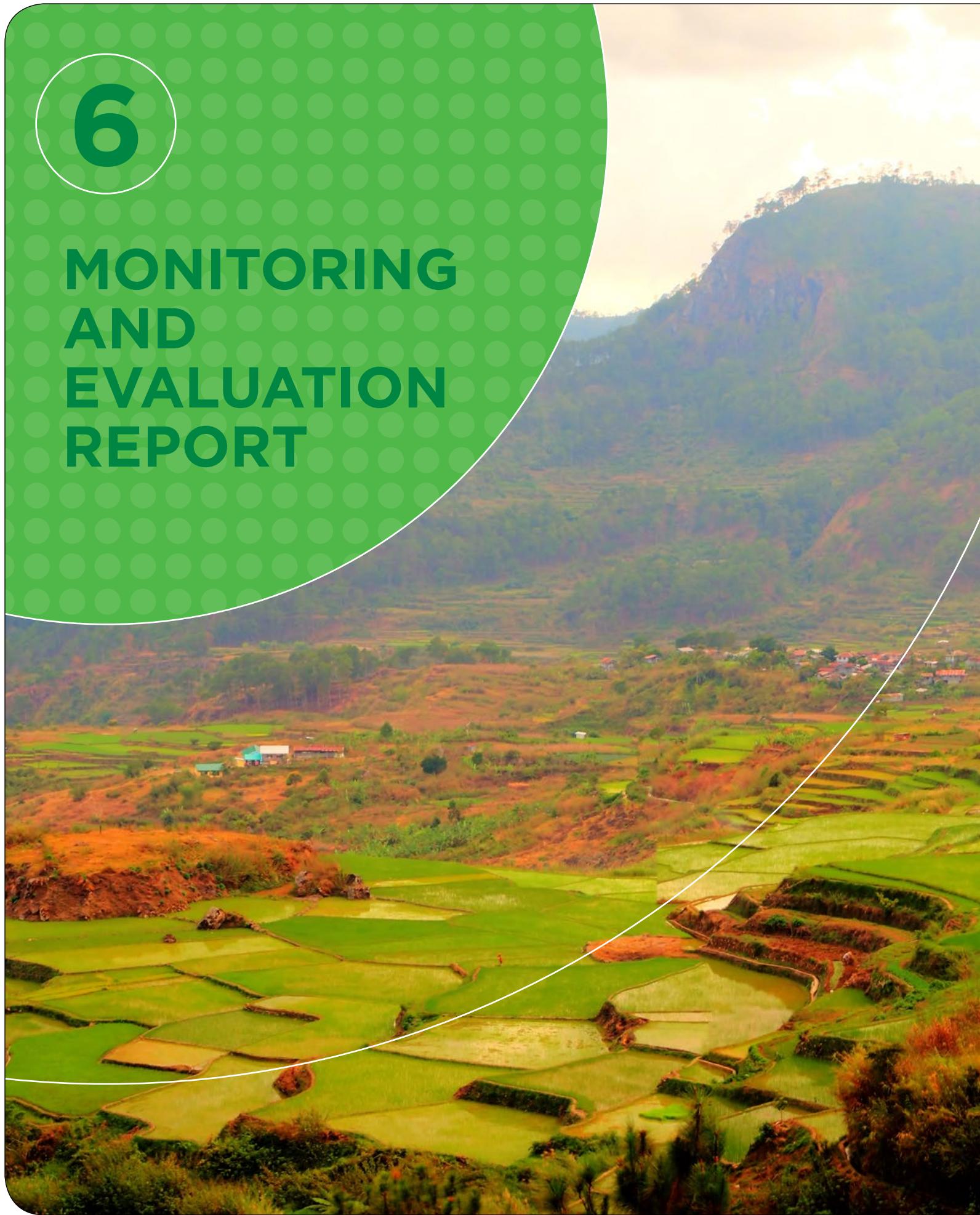
a. Translations, proofreading, transcriptions, courier/freight service, phone calls, printing, interpretation services, and video conferencing.



Colombia

6

# MONITORING AND EVALUATION REPORT





Philippines

## From WAVES to WAVES+

Fiscal year 2017 witnessed the successful transition of the WAVES partnership to WAVES+. As part of this change, the WAVES monitoring and evaluation (M&E) framework was updated to reflect the new structure and priorities of the WAVES+ phase.

The **Project Development Objectives' (PDOs)** focus on the potential impact of NCA and track if NCA and NCA-based policy analyses have been made publicly available. **Intermediate Results Indicators (IRs)** follow the components of WAVES+ (at the country, regional, and global levels), and measure how they contribute to PDOs:

- **Country level.** The M&E framework includes indicators that show institutionalization of NCA in national governments—for example, existence of an active national steering committee, number of skilled staff, and references to NCA in government policy and strategy documents.
- **Regional level.** The new framework focuses on providing a platform for knowledge, as measured by the number of organized events and the creation of new knowledge products.
- **Global level.** The framework focuses on new knowledge products and events related to ecosystem accounting, connecting NCA

to government policy making, and WAVES' engagement with internal World Bank and external audiences.

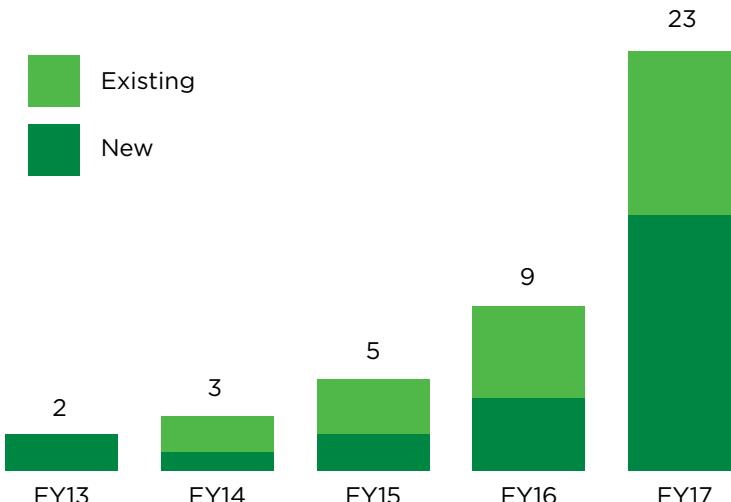
## Highlights for Fiscal Year 2017

The Philippines and Rwanda made **new natural capital accounts publicly accessible**. The Philippines established ecosystem accounts for two areas—Laguna de Bay Basin and Southern Palawan—and also made the accounts available through reports posted on its website's Knowledge Center. In addition, the Philippines published a mineral account that covers the entire country's resources of gold, copper, nickel, and chromite. Rwanda published accounts on land and preliminary results for minerals and water accounts.

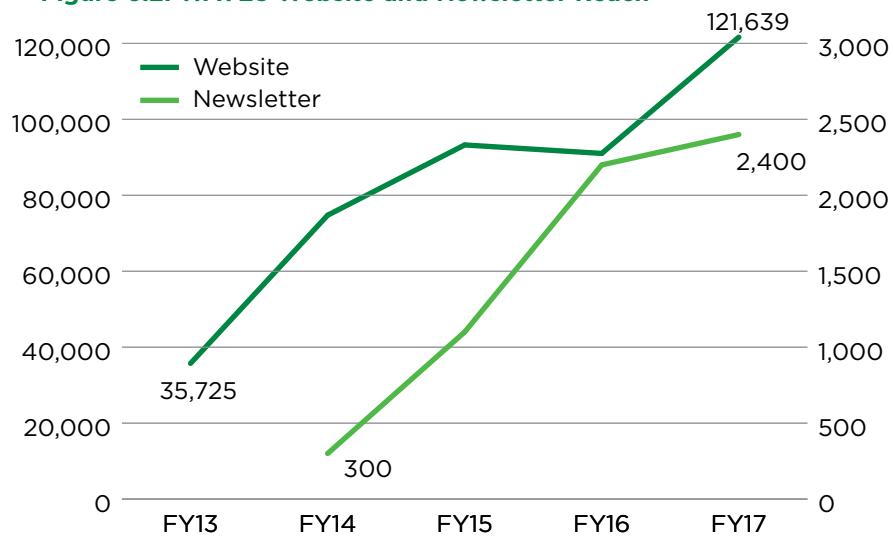
For six core implementing countries (Botswana, Colombia, Costa Rica, Guatemala, Madagascar, and the Philippines)—one country more than planned—at least two **NCA-related policy analyses** were publicly released for each country (figure 6.1). For Indonesia and Rwanda, one policy analysis was publicly released. In total, 23 country-based policy analyses were made publicly accessible, of which 14 were new this fiscal year. The dominant source for new policy analyses was the WAVES Forum on Natural Capital Accounting for Better Decision Making, held in November 2016, which demonstrates the event's role as a catalyst for producing policy analyses. The topics of the 23 analyses broke down as follows: general nature (7), water (6), ecosystems (3), forests (3), energy (1), fisheries (1), minerals (1), water and mining (1).

The target for total direct **project beneficiaries** was exceeded by more than sevenfold (1,247 actual versus 160 planned). Of these beneficiaries, more than one-third were women. WAVES maintains a relationship with 214 of

**Figure 6.1: Number of Policy Analyses Made Public**



**Figure 6.2: WAVES Website and Newsletter Reach**



the beneficiaries (61 of whom are women), who include 41 members of national steering committees (12 women), 134 members of technical working groups and technical staff (41 women), as well as 30 staff members of WAVES coordination units (8 women). In addition, WAVES reached 1,033 participants (377 women) through workshops and events.

WAVES made good progress in **institutionalizing** and sustaining implementation of NCA at the country level. This was reflected in the number of active national steering committees (8), the number of skilled staff in steering

committees, technical capacity, and coordination units (160, of whom 34 were women), as well as the number of official documents, products, and speeches that refer to NCA and NCA analyses (3 in fiscal year 2017, bringing the total to 26 since WAVES' creation).

Progress in signing up **new core implementing countries** under WAVES+ was slower than expected for two main reasons. First, before WAVES engaged with potential countries, it developed a new process for approaching and selecting countries, including a selection criteria matrix. Second, donors committed new funding

more slowly than expected, which decelerated commitments for future engagements. Only one of three planned countries, Zambia, completed the preparation phase (it submitted a formal Expression of Interest, and the WAVES team drafted a Concept Note, with inputs from the government, that describes its objectives for NCA in Zambia). The Kyrgyz Republic was chosen as a new core implementing country, and in the spring of 2017, it was expected that it would submit an Expression of Interest soon.

WAVES successfully launched its new **regional engagement program**, which supported five knowledge events in FY17 (two more than planned) in four World Bank regions: Africa (AFR), East Asia and Pacific (EAP), Europe and Central Asia (ECA), and Latin America and the Caribbean (LAC). Three knowledge products were drafted for AFR, EAP, and LAC, but only one of them was published—two fewer than expected.

Targeted technical assistance took off as planned. WAVES supported three programs with technical and financial assistance: coastal ecosystems in West Africa, water quality and agriculture in Uruguay, and the forest sector in Nepal.

WAVES' **global work** included support for four events (three more than planned) and two reports (one more than planned) on ecosystems accounting. WAVES also organized an event on policy uses of NCA, in collaboration with the Netherlands' Ministry of Foreign Affairs. The outcomes of the policy forum included a publication that compiled papers presented at the event, with topics including the SDGs and green growth.

WAVES also made progress in reaching out to external and internal (World Bank) constituencies. Total page views for the WAVES website, including its Knowledge Center, increased by 33.6 percent (the target was

20 percent), from 91,019 views to 121,639 (figure 6.2). Most views came from the United States (26 percent), followed by the Russian Federation (7 percent), the United Kingdom (6 percent), the Philippines (6 percent), and Colombia (5 percent). The geographic diversity of views increased slightly, as the share of views from the United States fell by 4 percentage points, and, for the first time, there was significant interest from Internet users in the Russian Federation. Also, the number of subscribers to the WAVES newsletter increased by 9.1 percent, from 2,200 to 2,400. By organizing global and regional events, WAVES reached 104 institutions from 23 countries and an additional 20 global or regional organizations. Also, WAVES reached and engaged with 34 World Bank Group staff (about one-third of the planned audience) and introduced them to the concept of NCA and its potential uses for policy making.

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT**

PUBLICLY ACCESSIBLE NATURAL CAPITAL ACCOUNTS PDO1: Countries supported by the project with at least two environment-related sectors in natural capital accounts produced on or before June 1, after the reporting period, in accordance with defined criteria, and publicly accessible (disaggregated by “old” and “new” countries)	FY11-FY16		FY17		
	<b>BASELINE</b>	5	Goal	8	WAVES
			Actual	6	WAVES+
<b>Colombia</b> (national: land, forest, and water; subnational: Chinchina, Orinoquia) <b>Botswana</b> (energy, minerals, water, macroeconomic indicators) <b>Madagascar</b> (forest, water, and macroeconomic indicators) <b>Costa Rica</b> (water, forest, and energy) <b>Guatemala</b> (forests, water, land and ecosystems, energy and emissions, fisheries and agriculture, minerals)					
<b>Philippines</b> (national: minerals; subnational: Laguna de Bay Basin, Southern Palawan) <b>Indonesia</b> (national: land, water (both planned)) <b>Rwanda</b> (national: land. Preliminary results for minerals, water)					

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT (continued)**

	FY11-FY16		FY17			
	Baseline		Goal	5	WAVES	6
			Actual	6	WAVES+	0
<b>PUBLICLY ACCESSIBLE POLICY ANALYSIS</b> PDO2: Countries supported by the project with at least two NCA-related policy analyses made publicly accessible (disaggregated by “old” and “new” countries)	Botswana (2) Colombia (2) Costa Rica (1) Guatemala (2) Madagascar (2) Philippines (2)		Botswana (5 – 3 new in FY17) Colombia (3 – 1 new) Costa Rica (3 – 2 new) Guatemala (4 – 2 new) Indonesia (1 new) Madagascar (2) Philippines (3 – 1 new) Rwanda (1 new)			
<b>DIRECT PROJECT BENEFICIARIES</b> PDO3: Direct project beneficiaries (number of women)	Baseline	0	Goal	160	% Women	35.1
			Actual	1,247	Women	438
			Steering committee: 41 (12) Technical staff: 143 (41) Country coordination: 30 (8) Workshops: 1,033 (377)			
<b>NCA STEERING COMMITTEES</b> IR 1.1: Countries supported by the project with NCA steering committee established (disaggregated by “old” and “new” countries)	Baseline	8	Goal	11	WAVES	8
			Actual	8	WAVES+	0
	Colombia (FY12) Botswana (FY12) Madagascar (FY12) Costa Rica (FY13) Guatemala (FY14) Rwanda (FY14) Philippines (FY14) Indonesia (FY14)					
<b>SKILLED STAFF</b> IR 1.2: Skilled staff in relevant government institutions participating in NCA and related policy analysis (disaggregated by “old” and “new” countries)	Baseline	10	Goal	10	WAVES	160
			Actual	160	WAVES+	0
	Technical staff: 19 Coordination unit staff: 26		Technical staff: 130 (34 women) Country coordination: 30 (8)			
<b>DRAFT NATURAL CAPITAL ACCOUNTS (WAVES+)</b> IR 1.3: Countries supported by the project with first preliminary draft natural capital accounts collected in year two (new countries)	Baseline	0	Goal	0	WAVES+	0
			Actual	0		
			Comment: Zambia and Kyrgyz Republic have been selected to be new core implementing countries			

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT (continued)**

	FY11-FY16		FY17				
<b>PUBLIC NATURAL CAPITAL ACCOUNTS (WAVES+)</b> IR 1.4: Countries supported by the project with validation and publication of final natural capital accounts in year three and made publicly accessible (new countries)	Baseline	0	Goal	0	WAVES+	0	
			Actual	0			
<b>PREPARATION PHASE INCLUDING POLICY QUESTIONS</b> IR 1.5: Countries supported by the project with preparation phase finalized, including firm political commitment received, key entry point for policy making/policy questions, and accounts identified (new countries)	Baseline	0	Goal	3	WAVES+	1	
			Actual	1			
		Zambia (Expression of Interest received and Concept Note drafted) Kyrgyz Republic (Expression of Interest expected)					
<b>POLICY USE OF NCA</b> IR 1.6: Number of key policy documents such as development plans, sectoral policies and strategies, bills, and so forth, that reference NCA or the accounts	Baseline	30	Goal	6	WAVES	6	
			Actual	6	WAVES+	0	
		Botswana (8) Colombia (7) Costa Rica (2) Guatemala (7) Madagascar (2) Philippines (4)					
<b>REGIONAL KNOWLEDGE EVENTS</b> IR 2.1: Regional knowledge events on NCA supported by the project	Baseline	0	Goal	3	Actual	5	
			<b>AFR:</b> Workshop with World Water Network, Botswana, October 26-28, 2016; Regional Workshop Gaborone Declaration on Sustainability in Africa, Nairobi, Kenya, June 20-23, 2016 <b>EAP:</b> Oceania Ecosystem Services Forum, Brisbane, Australia, March 27-31, 2017; South-South Knowledge Exchange between Philippines and Indonesia, Indonesia, December 7-8, 2016 <b>ECA:</b> Co-organized regional workshops <b>LAC:</b> Webinar to convene key players in SEEA; training in Paraguay; training in Ecuador; Regional Meeting in Guatemala, May 16-18, 2017				

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT (continued)**

	Baseline	FY11-FY16		FY17		
		0	Goal	3	Actual	1
<b>REGIONAL KNOWLEDGE PRODUCTS</b> IR 2.2: Regional knowledge products supported by the project and made publicly accessible				AFR: Readiness report published and video on NCA produced jointly with Conservation International EAP: Produced final draft report on regional partners LAC: Produced final draft readiness report and publicly released training materials used by partners that had been translated into Spanish		
<b>TARGETED TECHNICAL ASSISTANCE</b> IR 2.3: Number of countries with targeted technical assistance	Baseline	0	Goal	1	Actual	3
			West Africa, WACA program on coastal ecosystems (Benin, Côte d'Ivoire, Mauritania, São Tomé and Príncipe, Senegal, and Togo) Uruguay, water quality and agriculture Nepal, the forest sector In addition, technical support (no financing) has been provided to Ecuador through ECLAC			
<b>EVENTS ABOUT ECOSYSTEM ACCOUNTS</b> IR 3.1: Global knowledge events on developing ecosystem accounts supported by the project	Baseline	0	Goal	1	Actual	4
			Participation in annual meeting of the London Group on Environmental Accounting in Oslo, Norway, October 2016; Working Group of Experts on Measuring Sustainable Tourism, Madrid, Spain, October 20-22, 2016; participation in Oceania Ecosystem System Services Forum, Brisbane, Australia, March 2017; and planned participation in the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA) meeting, New York, June 2017			

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT (continued)**

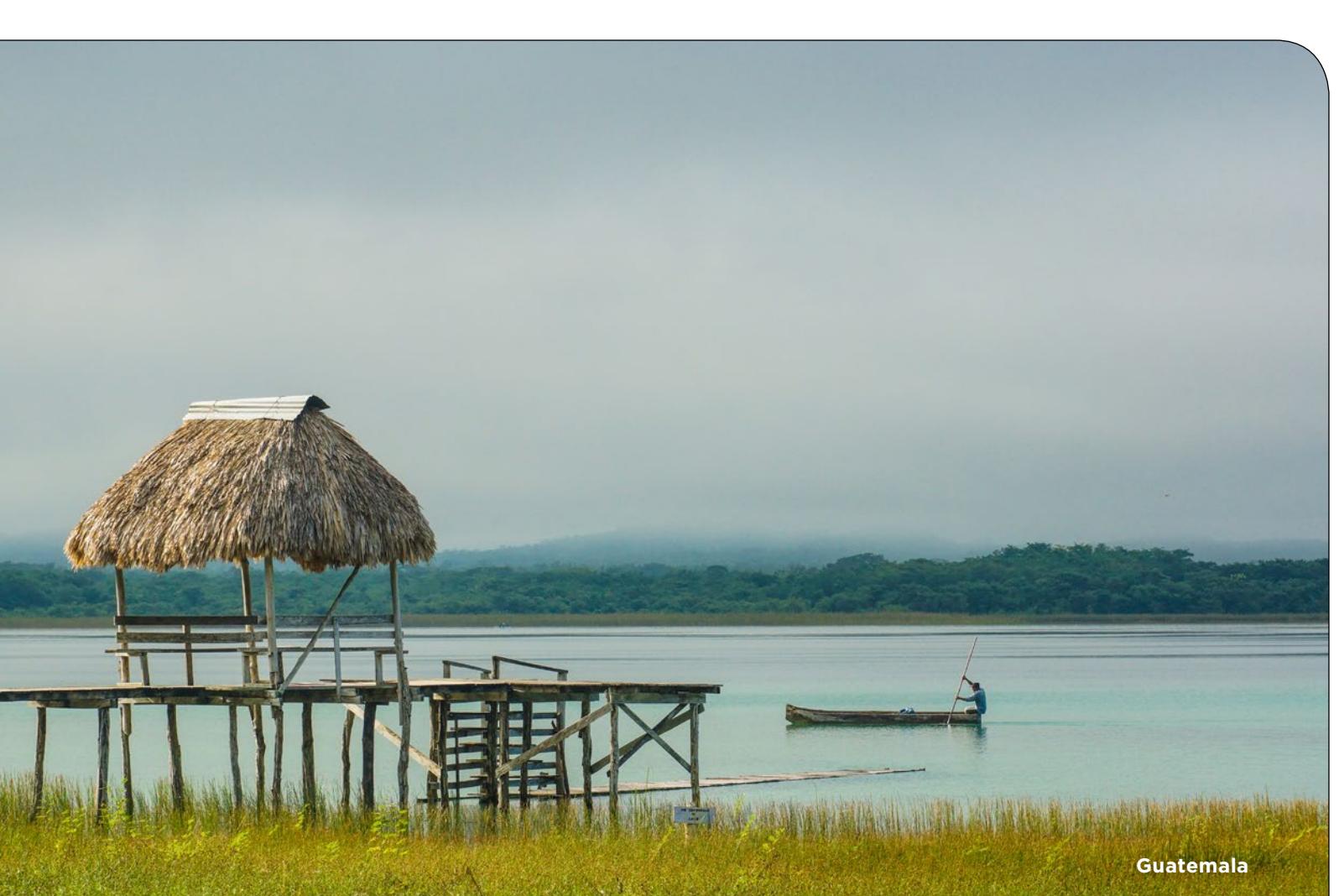
	Baseline	FY11-FY16		FY17		
		0	Goal	1	Actual	2
<b>KNOWLEDGE PRODUCTS FOR ECOSYSTEM ACCOUNTS</b> IR 3.2: Global knowledge products on developing ecosystem accounts made publicly accessible			Obst & Atkinson, "Transaction Prices for Ecosystem Accounting." Note prepared for the 22nd meeting of the London Group on Environmental Accounting, Oslo, Norway, September 28-30, 2016. Short, practical guideline for country implementation forthcoming. WAVES+ progress report on testing valuation methodologies in countries for the annual meeting of the London Group on Environmental Accounting, October 2017			
<b>EVENTS ABOUT POLICY USES</b> IR 3.3: Global knowledge events on NCA policy uses supported by the project	Baseline	0	Goal	1	Actual	1
			WAVES Policy Forum on Natural Capital Accounting for Better Decision Making, The Hague, November 22-23, 2016, organized in collaboration with the Ministry of Foreign Affairs of the Netherlands; participants included representatives from WAVES core implementing countries, Australia, Germany, the Netherlands, Sweden, Switzerland, the United Kingdom, the European Union, Global Green Growth Institute, the United Nations Economic Commission for Europe, and International Institute for Environment and Development (45 participants)			
<b>KNOWLEDGE PRODUCTS ABOUT POLICY USES</b> IR 3.4: Global knowledge products on policy uses of NCA made publicly accessible	Baseline	0	Goal	1	Actual	1
			Policy forum papers on using NCA for energy, water, biodiversity, and other sectoral policies, as well as policy areas such as SDGs and green growth			

**TABLE 6.1 SUMMARY OF MONITORING AND EVALUATION REPORT (continued)**

	FY11-FY16		FY17		
	Baseline	91,019	Goal	+20%	Actual
<b>WAVES WEBSITE USE</b> IR 3.5: Hits on WAVES website (including Knowledge Center) <sup>a</sup>	FY2015: 93,255 FY2016: 91,019 Newsletter FY2016: 2,200 subscribers		FY2017: 121,639 Distribution by country: 26 percent, United States 7 percent, Russian Federation 6 percent, United Kingdom 6 percent, Philippines 5 percent, Colombia 3 percent, Costa Rica 3 percent, India 2 percent, Australia 2 percent, Kenya 2 percent, Germany FY2017: 2,400 subscribers		
<b>INTERNAL EVENTS</b> IR 3.6: People reached in internal World Bank events (brown bag lunches [BBLs], and others)	Baseline	0	Goal	100	Actual
			BBL on Rwanda: 6 Hidden Dimensions of Poverty Project: 4 BBL on Turkey: 23 Event on NCA in Jamaica: TBD Other: 1		
<b>INSTITUTIONAL OUTREACH</b> IR 3.7: Institutions reached in communication campaigns (disaggregated by country) <sup>b</sup>	Baseline		Goal		Actual
			Global (20), Australia (3), Bolivia (2), Brazil (4), Chile (5), Colombia (8), Costa Rica (7), Curaçao (4), Dominican Republic (13), European Union (1), Germany (3), Guatemala (8), Jamaica (3), Mexico (5), Netherlands (5), Panama (2), Paraguay (9), Peru (7), St. Lucia (1), Sweden (2), United Kingdom (2), and Uruguay (4)		124

a. Cutoff date for data was March 31, 2017. Data refer to annual period of April 1, 2016, to March 31, 2017.

b. Global and regional component only.



Guatemala

# Credits

## Authors

**This report was prepared by** Sofia Ahlroth, Henry Alterio, Irene Alvarado Quesada, Kenneth Bagstad, Timothy Brown, Kathleen Anne E. Capiroso, Glenda Carvajal-Muñiz, Juan-Pablo Castañeda, Gillian Ann Cerbu, Diji Chandrasekharan, Nissa Cita, Benaifer Kermani Devine, Lourdes Escobedo, Ross Hughes, Edwin Itshekeng, Stig Johansson, Johannes S. Kiess, Peter Kristensen, Glenn-Marie Lange, Paul Martin, Jacqueline Miel, Boitumelo Molefhe, Rafael Monge Vargas, Collins Mwai, Iretomiwa Olatunji, Stefanie Onder, Gunars Platais, Marnel Arnold R. Ratio, Giovanni Ruta, Ana Santos, Portia Segomelo, Ruth Tiffer-Sotomayor, Claudine Uwera, Michael Vardon, and Elizabeth White.

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WORLD BANK GROUP

1818 H Street, NW,  
Washington, DC 20433 USA