WEALTH ACCOUNTING AND THE VALUATION OF ECOSYSTEM SERVICES

WAVES ANNUAL REPORT 2014

#naturalcapital

#BeyondGDP

#wealthaccounting

WAVES

WAVES is a global partnership that aims to mainstream natural capital in development planning and national economic accounts in support of sustainable development.

WAVES core implementing countries include developing countries—Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines and Rwanda—all working to establish natural capital accounts. WAVES also partners with UN agencies—UNEP, UNDP, and the UN Statistical Commission—that are helping to implement natural capital accounting.

WAVES is funded by a multi-donor trust fund and is overseen by a steering committee. WAVES is grateful to its donors—Denmark, the European Commission, France, Germany, Japan, The Netherlands, Norway, Switzerland, and the United Kingdom.

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EXECUTIVE SUMMARY

Number of Core WAVES Countries Growing

In April 2013, a packed room of ministers and senior policy makers from 40 countries attended our High-Level Ministerial Dialogue on Natural Capital Accounting (NCA) at the Spring Meetings of the World Bank and the International Monetary Fund (IMF). They expressed commitment to scale up NCA efforts as a tool to address their most pressing development challenges. We responded to their call for more support by gearing up for expansion. Recently, three more countries joined WAVES as core implementing countries—Guatemala, Indonesia, and Rwanda—bringing the total from five to eight.

The list of participating country partners signed on to the NCA Initiative has grown from 62 to 69, including 39 low- and middle-income countries. A few of the developing countries are implementing NCA programs already, but they share and benefit from the numerous technical workshops held in most regions of the world—connecting them to their peers in other countries also doing NCA.

In February 2014, the WAVES steering committee endorsed an expansion strategy built on two pillars: expanding the number of core countries from 8 to 15 or more and building regional and thematic communities of practice to significantly strengthen regional capacity for NCA. This expansion is contingent upon additional funding to the WAVES Multi-Donor Trust Fund.

First Results of Accounts Are Emerging

Each of the original five WAVES countries has finished the preparation phase which focused on setting up institutional mechanisms, identifying policy entry points, and developing a road map for NCA. Now, results are now emerging on the construction of accounts—in Botswana, the first phase of water accounts were well received by the president's Botswana Economic Advisory Council

(BEAC) in 2013 and a second phase has begun. The preliminary accounts for minerals and fiscal policy are being reviewed, and scoping studies for ecosystem and energy accounts are under way.

The Philippines has begun work on ecosystem accounting with several consultation and workshops for two pilot sites: Laguna Lake Basin and Southern Palawan. Mineral accounts are being developed, with an emphasis on benefit sharing and impacts on local communities. Mangrove accounts are planned next year, with increased national interest following the destruction from cyclones in the past year. In Colombia, work has begun on the Laguna de Tota watershed, the first among three pilots that will culminate in national water accounts. Colombia is also developing a national forest account, starting with forest land and timber accounts and moving toward including forest ecosystem services. Costa Rica has started water and forest accounts. Madagascar has begun work on water accounts at the river basin level, forests in protected areas, and minerals. Guatemala, a pioneer in implementing the System of Environmental-Economic Accounting (SEEA), updated its accounts for water, forests, and energy and presented them at the Guatemala WAVES program launch in March 2014. WAVES will support Guatemala in taking this work forward, institutionalizing and applying NCA to policy.

Making the Link with Policy and Institutions

A key element of the WAVES approach is linking NCA with specific policy entry points and decisions, and setting up the institutional mechanisms in countries. We are now beginning to see results: Colombia has a policy on integrated environmental management for Laguna de Tota that mandates developing indicators emerging from WAVES work. In Costa Rica, a law has been introduced that will require all environmental clearances to include NCA. The importance of NCA as a tool for better decision making in Botswana was emphasized in the mid-term review of the 10th National Development Plan, and in the president's State of the Nation address to parliament. NCA will be mainstreamed in the National Development Plan 11 that is being discussed and finalized now.

Members of the Policy and Technical Experts Committee at their Annual Meeting

Governments are making a commitment to continue this work beyond WAVES— for example, in Botswana, a unit for water accounting is included in the restructuring plan of the Department of Water Affairs. In Costa Rica, two full-time technical officers from the Central Bank of Costa Rica are dedicated to work on NCA. The Philippines National Statistics Office is hiring staff to work on NCA full time. The recent election in Madagascar clears the way for discussions on the institutionalization of NCA.

Progress on Developing Methodologies for Ecosystem Accounting

The Policy and Technical Experts Committee (PTEC), a multidisciplinary body set up under WAVES, helps develop internationally agreed guidelines for ecosystem accounting. Work has been commissioned to develop technical guidance notes to assist countries with ecosystem accounting. PTEC is working with partners such as Conservation International in Peru to implement pilot ecosystem accounting beyond the eight WAVES countries. PTEC and the Philippines WAVES team, partnering with the University of Wageningen of the Netherlands and the Australian Bureau of Statistics, have developed a training course on ecosystem accounting. This course was tested out in the Philippines in early 2014. PTEC also oversees the compilation of evidence on the policy applications of NCA, and this year completed a study covering 12 countries that demonstrates that environmental accounts are policy relevant.

Participants at the High-Level Ministerial Dialogue on Natural Capital Accounting organized by WAVES in 2013

A Growing Global Community on NCA

Over the past year, the global community of practice on NCA has come together and is working to deploy the tools of NCA on the ground, while raising awareness globally on the concept of looking "beyond GDP" for a more complete picture of growth and well-being. We have had several workshops at which experts and government officials worked side by side, learning to construct accounts. We have worked with our country partners, the United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP), UN Statistics Division (UNSD), The Economics of Ecosystems and Biodiversity (TEEB) initiative, the Australian Bureau of Statistics, the U.K.'s Department for Environment, Food and Rural Affairs (DEFRA), Tropical Agricultural Research and Higher Education Center (CATIE), nongovernmental organizations like Conservation International and the Nature Conservancy, universities, and our donor partners to nurture this community and build synergy.

Partners Are Complementing Our Work while Moving Toward a Shared Goal

The WAVES partnership by itself cannot respond to all of the interest in NCA or engage all of the policy makers and stakeholders. Many of our partners have contributed to the promotion of NCA with their own programs. We work closely with our partners in the UNSD, supporting and participating in each other's trainings and workshops. We do the same with our colleagues in UNDP, working with programs like the Poverty and Environment Initiative, and in

UNEP, working with the Green Economy Advisory Services and TEEB, as well as UNEP's programs like VANTAGE. Where we work in the same countries, we seek to coordinate our efforts with our partners.

Private Sector Work Moving Ahead

Working with the Natural Capital Coalition (formerly the TEEB for Business Coalition), the International Finance Corporation (IFC) is leading the World Bank Group's effort for the private sector to develop a broad protocol that could serve as a template for NCA in the private sector. This would be similar to the UN System of Environmental-Economic Accounting (UN SEEA) for governments. To ensure comparability and the sharing of lessons from efforts in the public and private approach to NCA, WAVES together with the IFC has joined the steering committee of the Natural Capital Protocol project. The Natural Capital Protocol, as the framework is called, will seek to harmonize the growing number of approaches for assigning value to environmental assets, such as minerals or land, and externalities, such as damage from climate change or the depletion of natural resources, to promote better measurement. This protocol will be tested in selected countries, including Colombia and Vietnam, in coordination with WAVES's effort for NCA in the public sphere.

Working to Operationalize NCA within the World Bank

The World Bank has worked on wealth measurements since the 1990s. For the first time, these measures are being mainstreamed within the Bank's own results measurement systems. In April 2014, the World Bank Group Board approved a new indicator for the Results Measurement System for the International Development Association (IDA) that focuses on the poorest countries: change in wealth per capita, which includes natural, physical, and human capital. Moving forward, all country partnership strategies will include this new indicator. The new World Bank Corporate Scorecard, the main results measurement system for the World Bank, also includes this indicator.

Glenn-Marie Lange, Program Manager, WAVES speaking at the VANTAGE conference in December 2013, Nairobi, Kenya (Photo by IISD)

In recent years, the demand for analysis using adjusted net saving (ANS) and wealth accounts has grown and is helping resource-rich countries such as Ghana, Guinea, Guinea-Bissau, Indonesia, Liberia, Mauritania, Mozambique, Sierra Leone, and Timor-Leste, among others. This has helped strengthen the World Bank's dialogue with countries about natural capital, economic growth, and sustainable development strategies.

Communicating NCA Is Increasing Our Reach

Over 2013–14, WAVES expanded its reach to a large and diverse global audience via our website, e-newsletter, and social media. Since the newsletter's launch, both the number of visits—and visitors—to the WAVES website doubled compared to the previous year. We have also recently launched a Spanish version of the WAVES website to increase our reach to countries in Latin America. Partnering with the London-based International Institute for Environment and Development (IIED), we are in the process of developing an online knowledge platform to support and provide momentum to WAVES partnership countries and global stakeholders.

We have been listening to our stakeholders and have organized several consultations to continue the dialogue about NCA and policy and refine work programs. In Botswana, Colombia, Costa Rica, Guatemala, Madagascar, and the Philippines stakeholders have come together to exchange ideas about NCA. Through IIED, WAVES will be developing targeted communications strategies for all the core WAVES countries.

Looking Ahead

We will continue our campaign to increase the global uptake of and capacity to implement NCA. While we plan to increase the number of core implementing countries, we are looking at setting up communities of practice (CoPs) to meet the demand of a larger number of countries. We envision regionally-based CoPs as an important mechanism to support institutionalization of NCA in multiple countries by developing broad-based understanding and capacity building to implement and use NCA. CoPs will provide peer learning, opportunities to exchange experiences and report back on results by countries, a wide range of training services, and knowledge management over a four- to five-year period.

#NaturalCapital

1. PERSPECTIVES FROM THE FIELD

> “WHAT SETS WAVES APART IS ITS FOCUS ON INSTITUTIONALIZING AND ENCOURAGING MULTIPLE ORGANIZATIONS TO WORK TOGETHER AS A TEAM.”

ALEXANDER MARTINEZ, the assistant director of environmental sustainable development for Colombia’s National Planning Department, has a personal as well as a professional interest in his country’s natural resources. In his rare spare time, he enjoys exploring Colombia’s natural areas with his family—especially in San Francisco, a protected area in the Putumayo region with forests and lakes that he finds very peaceful. Originally trained as a forest engineer, he also enjoys playing guitar, piano, and saxophone.

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Last fall, I participated in an exercise on watershed management for Lake Tota [in Colombia]. We used natural capital accounts to crunch some basic numbers—the supply and demand of water, the quantity of freshwater available, and the consumption pattern in the watershed.

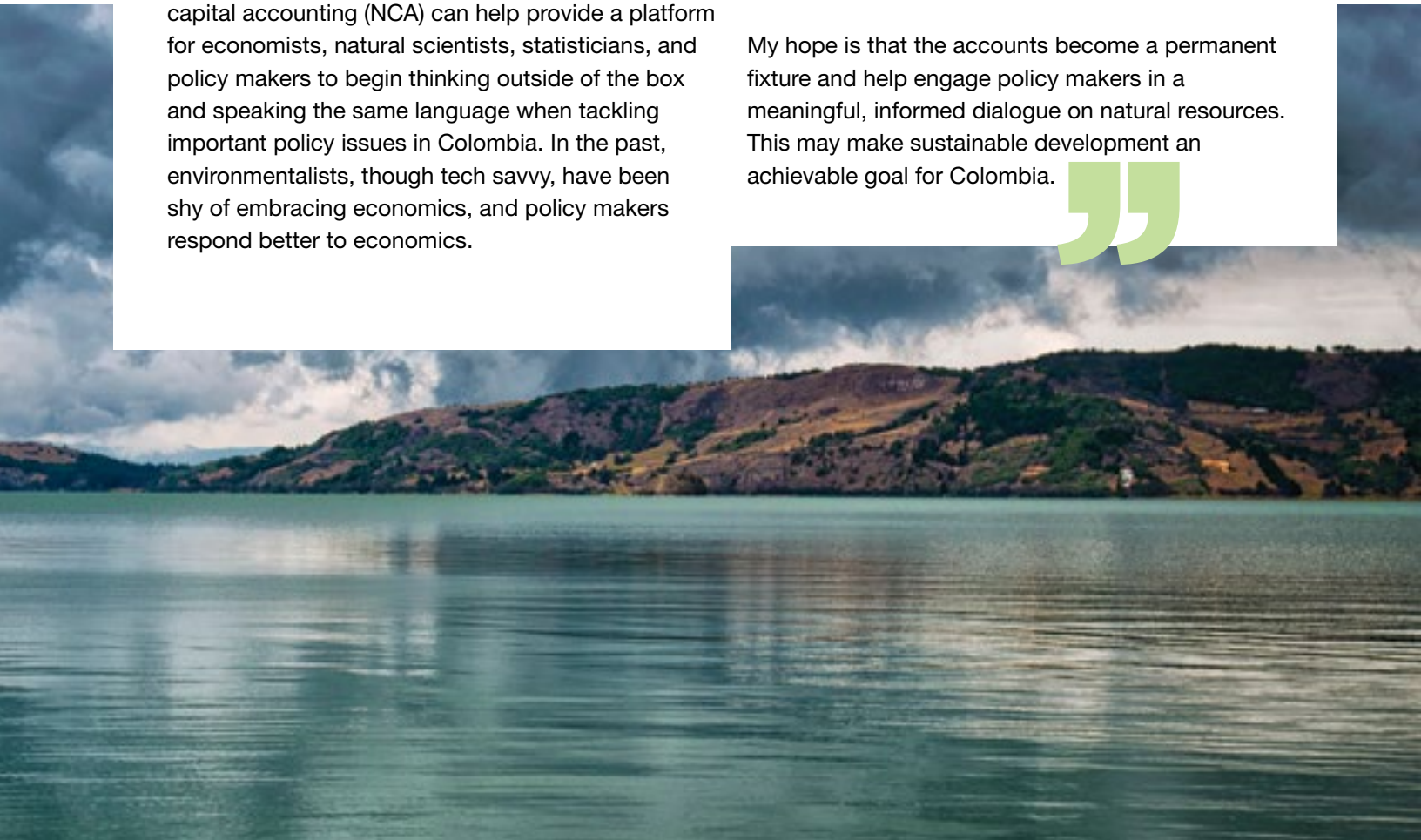
Although this exercise only scratched the surface of the information that accounts can provide, I saw firsthand how valuable this can be for policy makers. I also saw the potential to build on the foundation laid by Colombia's Department of Statistics in constructing accounts.

What sets WAVES apart is its focus on institutionalizing and encouraging multiple organizations to work together as a team. Natural capital accounting (NCA) can help provide a platform for economists, natural scientists, statisticians, and policy makers to begin thinking outside of the box and speaking the same language when tackling important policy issues in Colombia. In the past, environmentalists, though tech savvy, have been shy of embracing economics, and policy makers respond better to economics.

I think through rigorous and standardized information, NCA can make different perspectives visible. Everyone on the team can come together and make decisions based on valid statistical information. This is the reason I enjoy working with WAVES and cannot wait for full-fledged accounts that will show the national picture on a chosen set of natural resources or more comprehensive information on Lake Tota—a key resource for several stakeholders, including onion farmers.

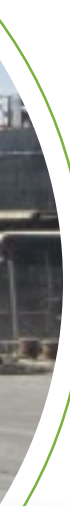
NCA can also present challenges. Not all of the indicators and information are always perfect. It is important to demonstrate the chain of information in a transparent way, so the various stakeholders can identify the gaps and improve the information for subsequent discussions.

My hope is that the accounts become a permanent fixture and help engage policy makers in a meaningful, informed dialogue on natural resources. This may make sustainable development an achievable goal for Colombia.



GIANLUCA MELE is the World Bank country economist for Mauritania. Before Mele joined the World Bank in 2011, he worked at the United Nations on trade policy and economics. He works long hours as an economist, but when he has free time he enjoys playing piano and saxophone, even competing nationally in his home country of Italy.

"I HAVE LEARNED TWO BIG LESSONS THROUGH THIS WORK: THERE IS A REAL NEED FOR SAFEGUARDING NATURAL RESOURCE STOCKS THROUGH FISCAL POLICIES, AND PRODUCING QUALITY DATA IS FUNDAMENTAL."



When I began working in Mauritania in 2012, my job was principally focused on macroeconomic monitoring and economic policy work. I was struck by how rich Mauritania was in natural resources—iron and gold contributed greatly to gross domestic product (GDP), and the country's abundant fisheries were interesting from a policy perspective, as the sector could represent a significant potential source of employment.

My manager pointed me toward wealth accounting, and I recall getting excited about the fact that there was a methodology that could provide a quantitative estimate of the resources that Mauritania has and whether they were being used in a sustainable manner.

There was a mine of analytical information waiting to be tapped, but it was scattered and not linked to policy or decision making. Wealth accounting helped me draw a coherent picture of natural resources and the link to the economy by connecting all the dots. The results quantified the natural stock, but also showed that the country's growth was coming at the expense of its resources. In other words, its wealth was depleting.

There is growing curiosity about my work from my colleagues who work on macroeconomic issues. Countries in Africa grapple with having enough information about their natural resources in order to understand their influence on economic growth. Yes, wealth accounting as a methodology is not perfect, but it will get robust if we engage with it.

The most interesting part of my research is being a participant in the process, not just writing about economic theories. I like getting my hands—and feet—dirty talking to people in the field, like the fishermen in the port of Nouakchott. These are the ultimate beneficiaries of our work, and if in the end we achieve more sustainable growth, the people who will get the benefit are the poorest workers.

I have learned two big lessons through this work: there is a real need for safeguarding natural resource stocks through fiscal policies, and producing quality data is fundamental. I am working on building consensus with local authorities to institutionalize this approach in national statistics. The best outcome would be that the government starts owning this work and repeats it year after year.

JUAN-PABLO CASTANEDA is an economist specializing in natural capital accounting who advises WAVES core implementing countries in the Latin America and Caribbean region. Castaneda likes to paint when not compiling accounts on a spreadsheet. He studied to be an architect, but then changed course and undertook postgraduate studies in ecological-environmental economics in Guatemala, the United Kingdom, and the Netherlands. Before joining WAVES in 2012, he led a team that constructed the first natural capital accounts in his home country of Guatemala through a public-private academic partnership with the University of Rafael Landivar.

"THE MOST GRATIFYING PART ABOUT WORKING WITH WAVES IS THAT I HAVE BEEN ABLE TO APPLY MY EXPERIENCE TO THE OTHER CORE IMPLEMENTING COUNTRIES IN THE REGION."

In Guatemala, the benefits from economic growth are not being shared equally. The income earned from exploiting the country's natural resources, such as oil and gold, is not reaching the poor who live in the areas that have the most natural resources. Worse, these areas are suffering the greatest environmental degradation.

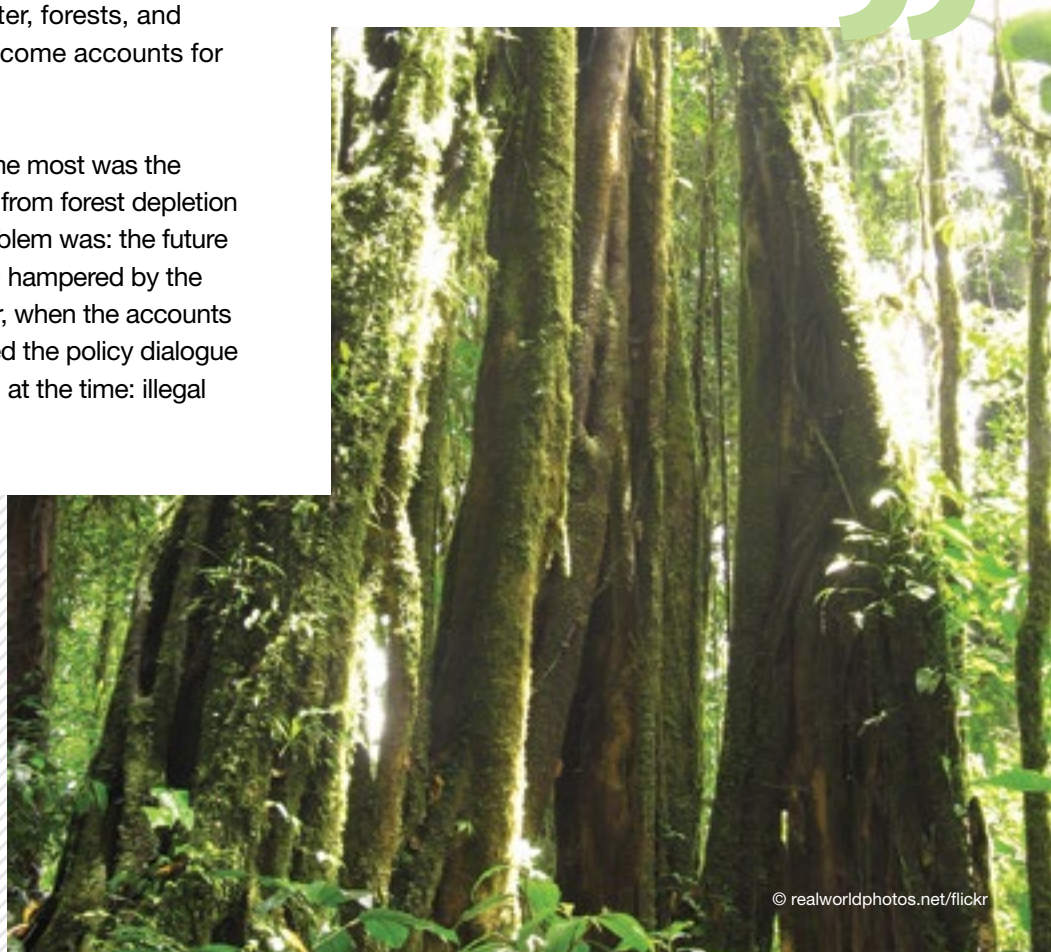
I always thought if there was a way to measure the relationship between the environment and the economy, one could show this irony in economic terms.

Through a project funded by the Netherlands, I developed the design to build Guatemala's environmental-economic accounts using the UN's System of Environmental-Economic Accounting (SEEA) framework, starting with forest accounts. We were able to develop a time series of accounts published in 2009 for energy, water, forests, and minerals, and expenditure and income accounts for the years 2001–06.

One of the indicators that struck me most was the figure showing the per capita loss from forest depletion that illustrated how critical the problem was: the future generation's resources were being hampered by the decisions being made today. Later, when the accounts were fully developed, they informed the policy dialogue on two strategies being discussed at the time: illegal logging and firewood use.

Latin American countries are very rich in resources, especially in water and forests, but these are being used unsustainably and not factored into economic decision making. Natural capital accounting is a good conceptual framework to analyze this interconnectedness.

The most gratifying part about working with WAVES is that I have been able to apply my experience to the other core implementing countries in the region—Colombia and Costa Rica. In doing so, I have learned some important lessons, such as how to break through institutional barriers in countries. I also discovered that it is key to involve the correct people at the correct time, such as key government stakeholders, nongovernmental organizations, research organizations, and those with technical skills.



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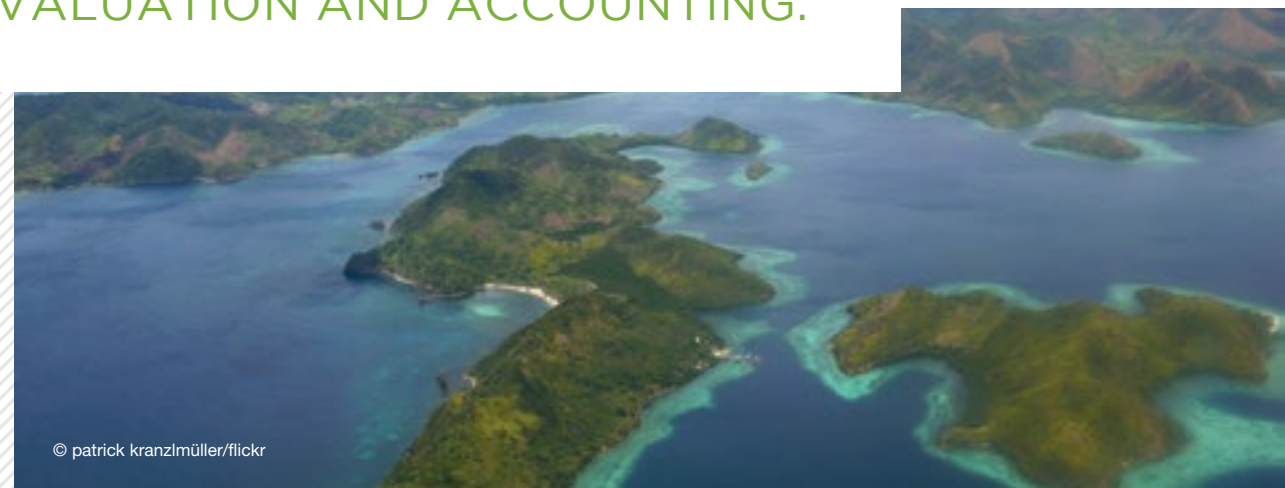
JOHN FRANCISCO A. PONTILLAS,

a project development officer for the Palawan Council for Sustainable Development, traces his interest in the environment to his childhood in the southern Philippine island of Palawan, one of the world's most biodiverse provinces. He studied marine fisheries at the University of the Philippines and earned a graduate degree in public policy from the National University of Singapore's Lee Kuan Yew School of Public Policy. He began working in 1987 for the Palawan Council for Sustainable Development and serves as its focal point for the WAVES work in the Philippines.

> "THE WAVES PROJECT CAN CONTRIBUTE TO CAPACITY BUILDING AND ENHANCEMENTS OF LOCAL TECHNICAL EXPERTISE IN PALAWAN AND THE PHILIPPINES ON ENVIRONMENTAL AND NATURAL RESOURCES VALUATION AND ACCOUNTING."



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In 2009, the Palawan Council for Sustainable Development and Palawan State University conducted a valuation study of the Bulanjao Range as an input to a cost-benefit analysis to evaluate development options for the mountain range. Similar initiatives were done by partner entities, such as Conservation International, and led to the declaration of the mountain range as a protected area. In 2012, the alarming recorded incidences of ships grounding in coral reefs prompted setting and assigning values to a one-square-meter coral reef based on the reef's live coral percentage.

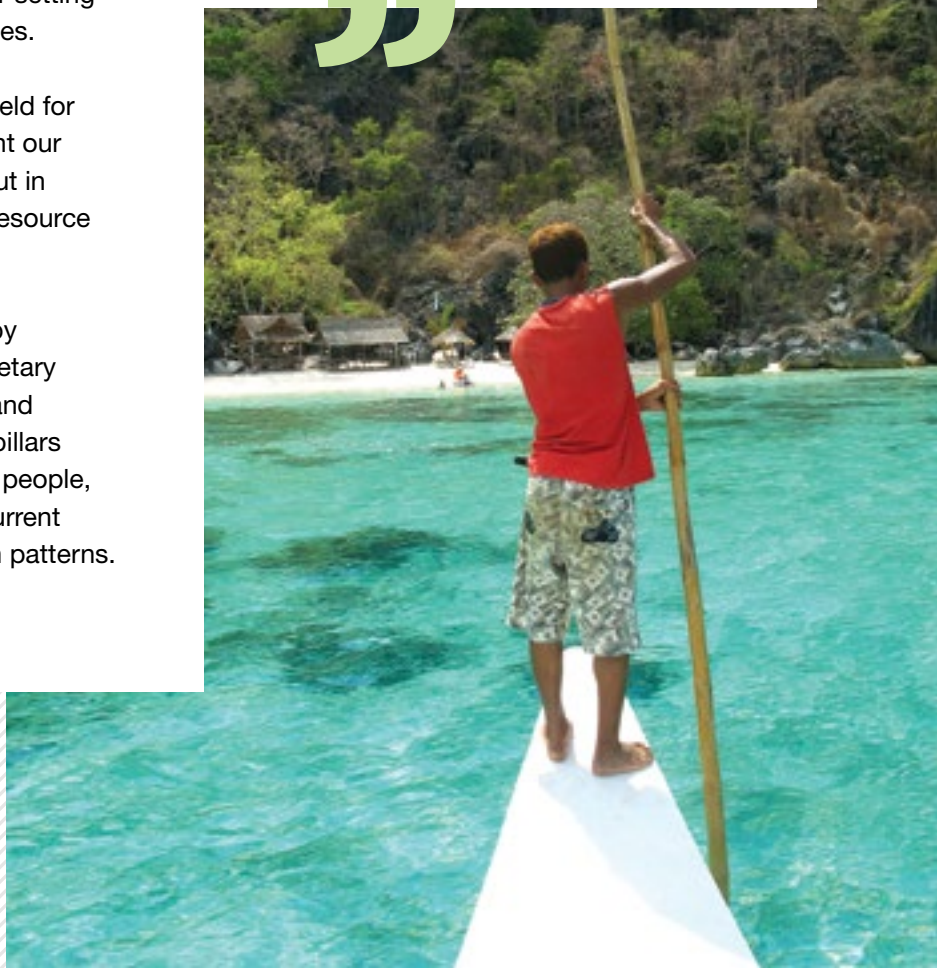
Both studies showed the immense value of our environment and natural resources, beyond the measure of market value as indicated by price. The studies also highlighted the importance of environmental and natural resources valuation to the governance of Palawan, specifically for setting environmental and natural resources policies.

Natural capital accounting is a fairly new field for me. In the work place, we normally account our natural resources not in monetary terms but in terms of biophysical attributes by way of resource assessments.

Expressing goods and services provided by the environment in both physical and monetary terms will help immensely in establishing and understanding the link between the three pillars of sustainable development: environment, people, and economy. This will revolutionize the current economic system and global consumption patterns.

The challenges for naturally endowed developing areas like Palawan, which is largely dependent on its natural resources, are wide ranging. These include overexploitation and resource destruction, pollution, and the problem of population increase. At the core of these challenges is poverty. Pursuing ecotourism as a key industry, building alliances, inclusive and transparency in governance, and inculcating accountability and responsible use of natural resources among the Palawan leadership and constituencies will help strengthen the foundation of sustainable development for Palawan.

The WAVES project can contribute to capacity building and enhancements of local technical expertise in Palawan and the Philippines on environmental and natural resources valuation and accounting.



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2. ACCOUNTS THAT INFORM POLICY

BOTSWANA WATER ACCOUNTS

Botswana is one of eight implementing country partners in the World Bank's WAVES Global Partnership, and it is constructing accounts for water, minerals, and land ecosystems. With strong support from the Botswana Economic Advisory Council (BEAC), the WAVES team has moved quickly to construct water accounts in order to better manage this scarce resource for economic growth, diversification, and poverty reduction.

Highlights from Botswana's water accounts from 1991-2012 include:

WATER USE AND SUPPLY

FIGURE 1. WATER SUPPLY BY NATURAL SOURCE

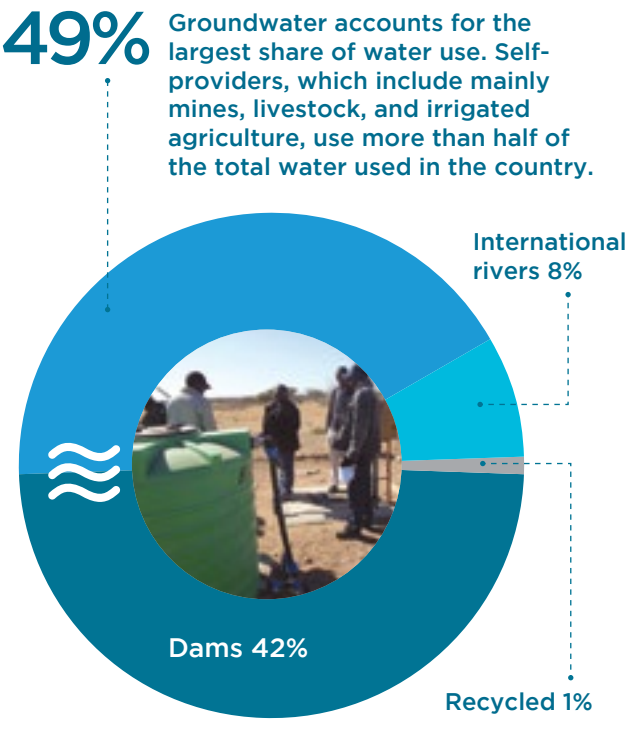
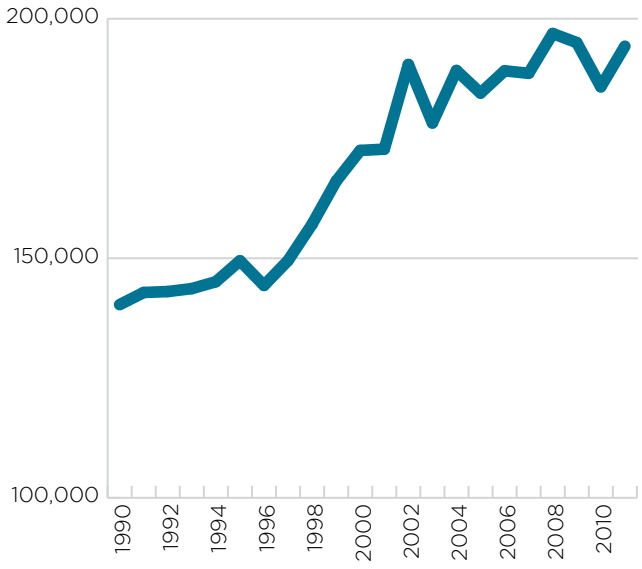


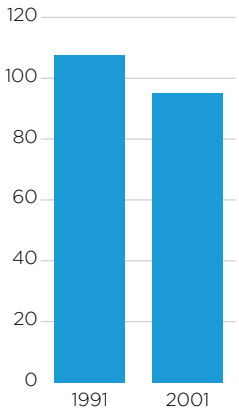
photo: © Global Water Partnership/flickr

FIGURE 2. LONG-TERM TREND IN WATER USE IN BOTSWANA (000 M^3)



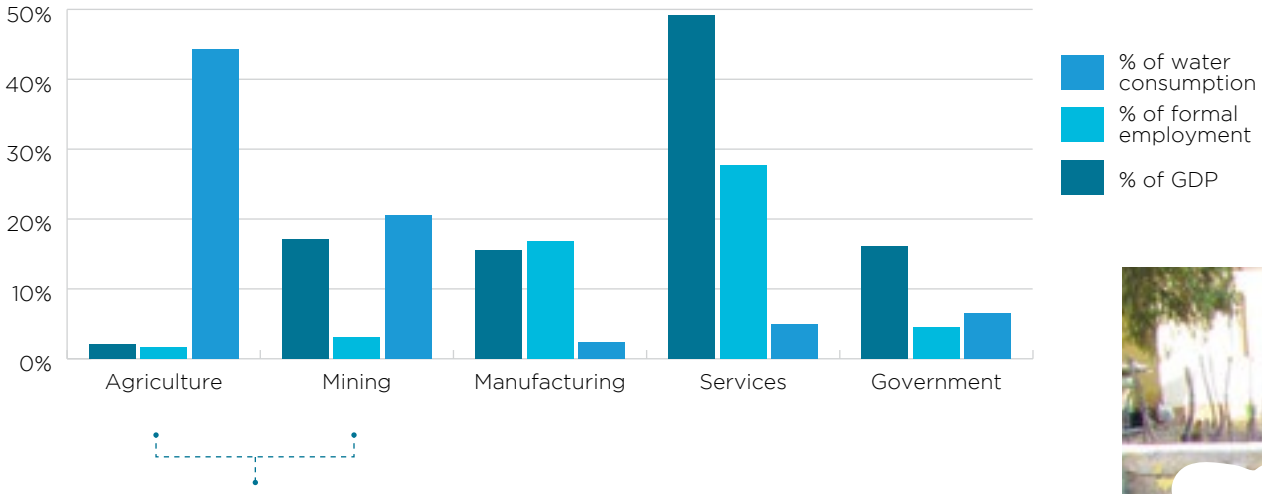
WATER IN THE NATIONAL ECONOMY

FIGURE 3. WATER USE PER PERSON

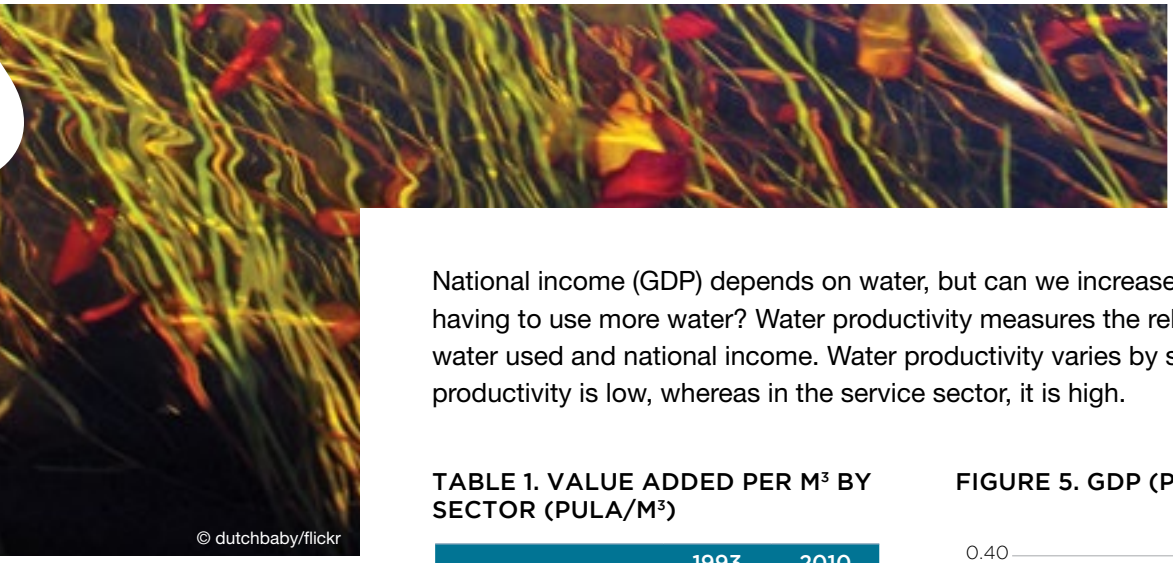


Botswana's water use has increased by a third between 1991 and 2011, but per capita water use has decreased by 10 percent in the same period, which shows that water is being used more efficiently per person.

FIGURE 4. SECTOR SHARES IN WATER USE, GDP, AND FORMAL EMPLOYMENT, 2011



The agriculture sector (livestock and irrigation) is the highest water user (43 percent), followed by households and the mining sector. Agriculture is the major user of water, but it is a low contributor to GDP and formal employment. However, agriculture supports a large share of informal employment, providing a critical social safety net. By contrast, mining uses less water but contributes significantly to GDP.



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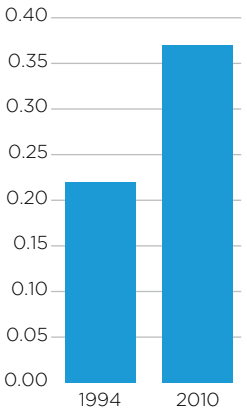
National income (GDP) depends on water, but can we increase income without having to use more water? Water productivity measures the relationship between water used and national income. Water productivity varies by sector. In agriculture, productivity is low, whereas in the service sector, it is high.

TABLE 1. VALUE ADDED PER M^3 BY SECTOR (PULA/M^3)

	1993	2010
Agriculture	0.02	0.03
Mining	0.77	0.41
Manufacturing	9.74	9.36
Services	23.00	31.07
Government	0.54	0.71

FIGURE 5. GDP (PULA/M^3)

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FOREST ACCOUNTS IN GUATEMALA

GUATEMALA'S ABUNDANT FOREST RESOURCES CONTRIBUTE TO THE LOCAL ECONOMY AND LIVELIHOODS AND PROVIDE MUCH OF THE POPULATION WITH FUEL WOOD. However, a combination of demand and competing land use such as agriculture and urban expansion has resulted in an alarming deforestation rate: 106 hectares of forest cover a day between 2006 and 2010.[1] The annual deforestation rate in Guatemala is 1.47 percent, which is higher than both the 0.41 percent for all of South America and 1.23 percent for Central America.[2] Guatemala must develop sound policies and plans that address deforestation rates while allowing for economic growth.

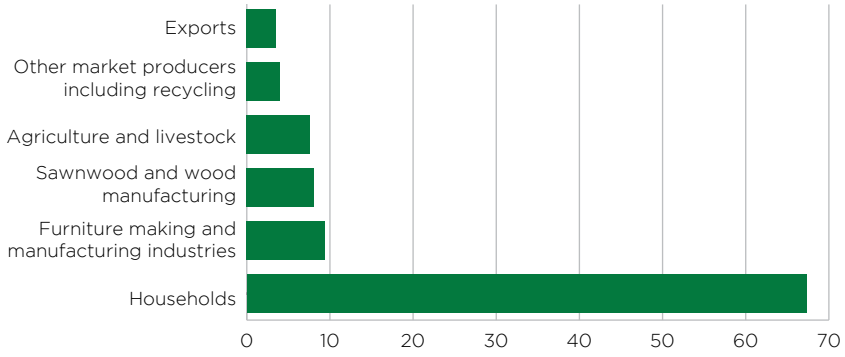
To meet this need, Guatemala's Central Bank and the Institute of Agriculture, Natural Resources, and Environment at the Rafael Landívar University created a partnership, funded by the Dutch government, in 2006. The partnership constructed natural capital accounts for Guatemala's forests, water, energy and emissions, groundwater resources, fisheries, land and ecosystems, and environmental spending.

Although there has been substantial progress in developing and publishing the accounts, Guatemalan stakeholders must ensure that the new environmental data will inform decision making. To provide guidance on this, the WAVES project is partnering with public and private entities in Guatemala that include the Central Bank, Secretariat of Planning and Programming of the Presidency, National Institute of Statistics, and Ministry of Environment and Ministry of Finance. The first WAVES-Guatemala National Steering Committee meeting was held in October 2013.

1. INAB, CONAP, UVG, and URL, Forest cover map in Guatemala from 2010 and forest cover dynamics from 2006–2010 (Guatemala: National Institute of Forests, National Advisory Board on Protected Areas, Valley University of Guatemala, and Rafael Landívar University).
2. FAO, Global Forest Resources Assessment 2010 (Rome: FAO, 2012).

FOREST USE AND USERS

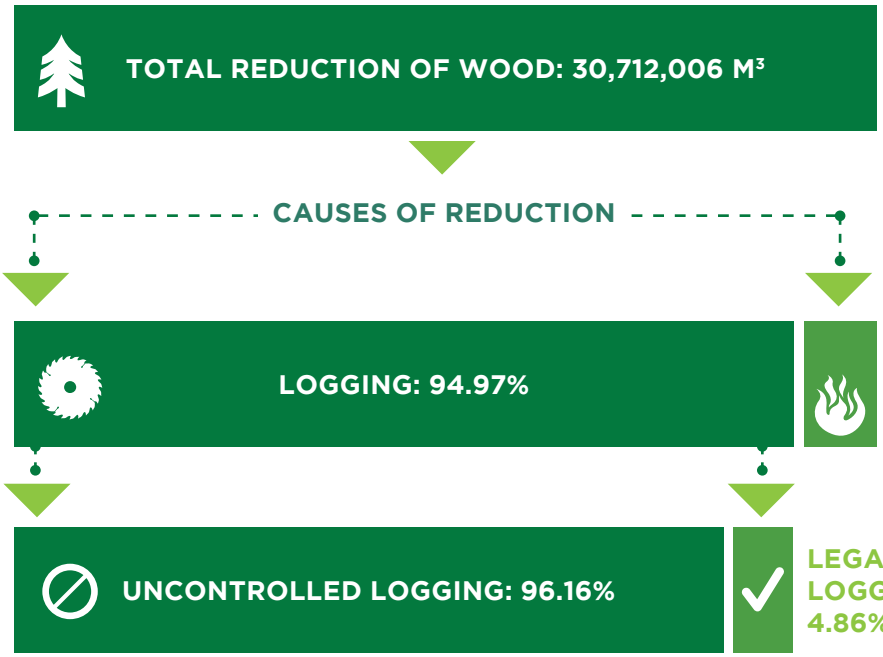
FIGURE 6. FORESTS SUPPLY BY NATURAL SOURCE



Guatemala's households use more than 67 percent of the national forest assets, which include timber, non-timber forest products, and wild animals. Ninety-two percent of the total use from households is for fuel wood, to meet basic needs such as cooking. Intermediate consumers use forest products for the production of other materials, and the country's fledgling forestry industry exports some products.

LOGGING OF FOREST ASSETS

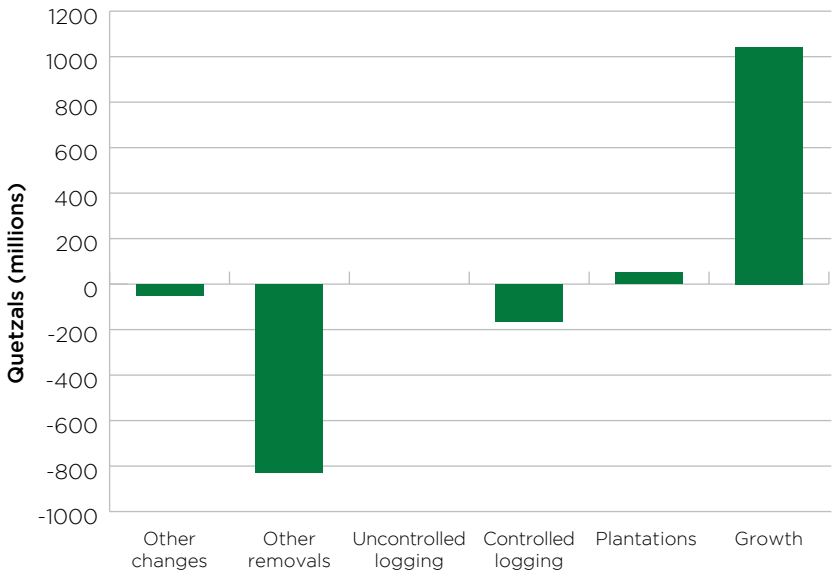
FIGURE 7. REDUCTION OF FOREST ASSETS (M3), 2006



Logging is responsible for almost 95 percent of the total reduction in Guatemala's forest stock, with the remaining 5 percent attributed to forest fires, disease, and natural tree deaths. There is a huge problem of illegal and uncontrolled logging, since more than 96 percent of the total is not controlled.

LOGGING OF FOREST ASSETS

FIGURE 8. IMPACT OF UNCONTROLLED LOGGING (QUETZALS, MILLIONS), 2006

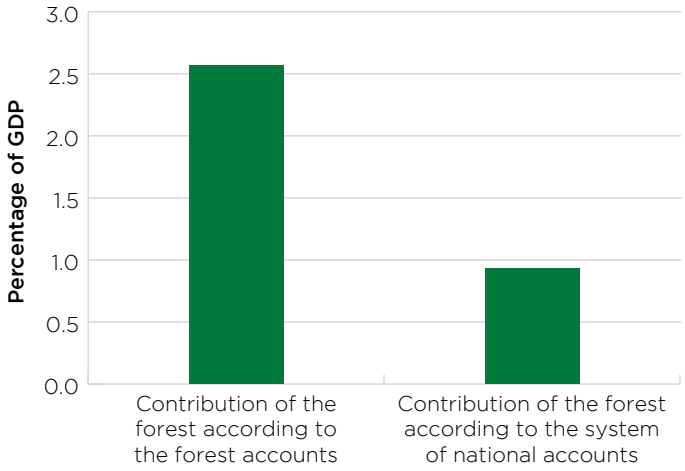


*1 Guatemalan quetzal = ~0.13 US$

The increase in forest assets from natural growth and plantations does not compensate for the losses from controlled and uncontrolled logging, other reductions, and other changes. The value of uncontrolled logging represents more than 3 billion Guatemalan quetzals, which substantially exceeds the value of controlled logging, which is 167 million quetzals.

FORESTS AND THE ECONOMY

FIGURE 9. CONTRIBUTION OF FORESTS TO THE ECONOMY (PERCENTAGE OF GDP), 2006



The forest accounts show that the true contribution of the forest to Guatemala's economy is 2.57 percent for 2006. In comparison, the system of national accounts registers a contribution of 0.93 percent for the same year.

FORESTS IN THE FUTURE

POLICY QUESTIONS THAT EMERGE FROM THE FINDINGS OF FOREST ACCOUNTS

What rural development strategies can encourage the substitution of other forms of energy for fuel wood?

What is an effective strategy to curb uncontrolled logging?

What are the necessary investments in forest protection and management to ensure the sustainable use of forest assets?

How can we increase efficiency in the silviculture industry to promote increased economic growth?

3.
A THRIVING GLOBAL PARTNERSHIP

WAVES GLOBAL ENGAGEMENT

The 2013 Annual WAVES Partnership Meeting in Washington brought together over 100 natural capital accounting practitioners from around the world to share results, discuss the latest on ecosystem methodology, and compare ideas with partners. The message from our partners was to increase engagement at a global scale as well as provide greater assistance to countries willing to work on NCA to address their policy challenges.

At the World Bank-IMF Spring Meetings soon afterward, 35 ministers and vice ministers came together to endorse their commitment to NCA. They demanded greater assistance for implementation in countries. Following the two meetings, the WAVES secretariat has engaged a global engagement specialist, two additional environmental economists with experience in NCA, and a communications specialist so that the secretariat can better support both country work and the global implementation of NCA.

The WAVES partnership is actively promoting NCA through a global campaign—working with international organizations such as the United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP), and United Nations Department of Economic and Social Affairs (UN DESA), including the UN Statistics Division, and the Regional Economic Commissions; country partners; nongovernmental organizations (NGOs); private sector groups; and other multilateral development banks. We participate in international meetings to raise awareness of NCA and explain why it is a valuable tool for policy and development planning and implementation, and we conduct training on the practical applications of these tools.

> “THE TIME HAS NOW COME TO ENSURE THAT BY 2015—WHEN THE UN’S MILLENNIUM DEVELOPMENT GOALS TRANSCEND INTO THE SUSTAINABLE DEVELOPMENT GOALS—THE GLOBAL COMMUNITY HAS THE STRATEGIES AND THE POLICIES IN PLACE TO ENSURE THAT NATURE IS FULLY INTEGRATED INTO ECONOMIES EVERYWHERE.”
>
> **ACHIM STEINER,** Executive Director of UNEP

NCA AND THE POST-2015 DEVELOPMENT AGENDA

The World Bank has been working with partners on natural capital accounting since the UN Conference on Environment and Development in Rio 1992, where Agenda 21, Chapter 8 calls for "Establishing systems of Integrated Environmental and Economic Accounting (IIEA)." It calls for systems of integrated environmental and economic accounts to be established in all member states at the earliest date as a complement to traditional national accounting systems. As part of this effort, Agenda 21 called for support to all member states (for the) utilization of sustainable development indicators in national economic and social planning decision-making practices, with a view to ensuring that IEEAs are usefully integrated in economic development planning.

This was supplemented at Rio+20 with calls for the development of measures that go beyond GDP and with a call for the development of sustainable development goals (SDGs) to be included in the post-2015 development agenda.

In 2014, the UN Secretary-General's High-Level Panel on the Post-2015 Development Agenda identified the UN SEEA and Bank-led WAVES partnership to assist governments with their national development strategies.

The World Bank has provided input to UN DESA documents on the value of NCA for SDGs and the post-2015 development processes. We have made interventions at the UN's Open Working Group on SDGs and sponsored a side event on NCA with a panel that included ministers for Rwanda and France, as well as senior officials from Colombia and the United Kingdom, to identify how undertaking NCA and joining WAVES can assist governments with the integration of environmental and economic information to contribute to policy and development planning.

Pascal Canfin, French Development Minister, expresses strong support for WAVES at a UN meeting in January 2014

The WAVES partnership by itself cannot respond to all of the interest in NCA or engage all of the policy makers and stakeholders. We encourage others to join us in this work, and many have contributed to the promotion of NCA with their own unique programs building on their own comparative advantage.

We have also taken advantage of gatherings organized by our partners, interested stakeholders, and partner countries. We have joined and made presentations at a host of meetings organized by partners, for example, the Poverty and Environment Partnership (PEP) meeting in Berlin, organized by the Federal Ministry for Economic Cooperation and Development, Germany (BMZ); the Ministerial Conference on African Sustainability in Gaborone, organized by the government of Botswana and Conservation International; a symposium in Tokyo organized by the Japanese Environment Agency and Conservation International; and a roundtable with the private sector organized by the group Business for Social Responsibility.

£400 MILLION

THE COST TO THE ECONOMY IN ONE YEAR IF BEES STOPPED POLINATING PLANTS AND FLOWERS
(UK Parliament Debate 2013)

The WAVES partnership continues to grow and expand. In February 2014, the WAVES steering committee expressed support for the new expansion strategy presented by the secretariat based on a two-pronged approach: increasing the number of core implementing countries and developing regional and thematic communities of practice.

> “IF WE DO NOT ACTIVELY ATTEMPT TO UNDERSTAND THE TRUE VALUE OF NATURAL CAPITAL WE WILL CONTINUE TO SET ITS VALUE WRONGLY AT ZERO.”
>
> **GEORGE EUSTICE,** Conservative Parliamentary Under-Secretary of State for Environment Food and Rural Affairs (DEFRA)

Core Implementing Countries

The WAVES secretariat and steering committee have defined criteria for the level of participation for all the 69 countries that signed on to the 50:50 NCA Initiative. **Core implementing countries** receive substantial, multiyear technical support to implement NCA funded by the WAVES Multi-Donor Trust Fund.

Over the last year, the WAVES secretariat engaged directly with many governments to discuss their interest in NCA and their "readiness" to implement WAVES. Three countries fast-tracked their readiness and have now joined the core implementing countries: **Rwanda, Guatemala, and Indonesia.** The plan is to increase the number of core implementing countries to 15 to 20, depending on the availability of funding.

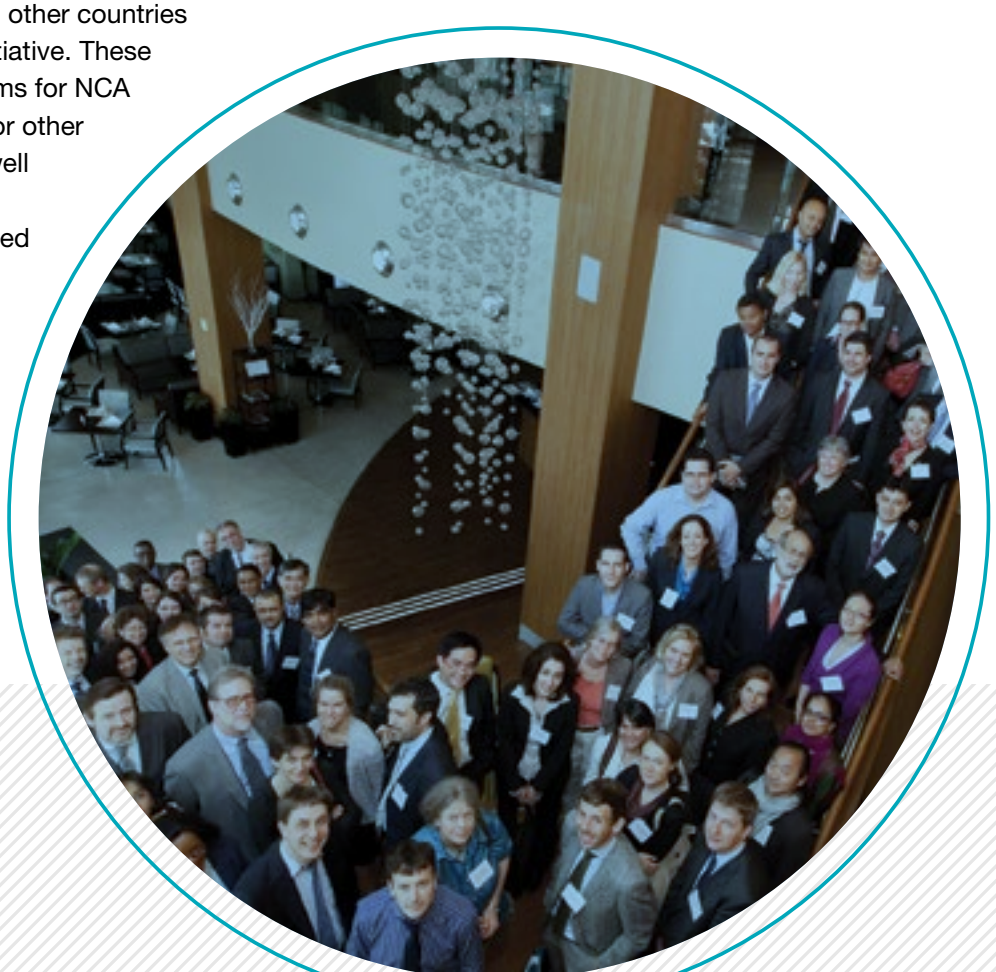
Participating countries include all other countries that have signed on to the NCA Initiative. These include countries that have programs for NCA that are funded through their own or other funding sources (not WAVES), as well as countries that do not yet have a program for NCA but have expressed interest in the concept.

The note *Participation in the WAVES Global Partnership* defines the criteria for participation in WAVES (See the full note in Annex 1).

Communities of Practice

The development of regional communities of practice (CoPs) for NCA is a key element of the WAVES Strategy for meeting the needs of all the 69 partner countries, complementing the intensive country-level work in core implementing countries. The CoP includes countries already implementing NCA (both WAVES CICs and countries with other sources of funding), as well as those wanting to learn about NCA.

The CoPs will strengthen the NCA programs in current CICs, and provide a longer-term solution to the challenge of institutionalizing NCA globally by building regionally based capacity for NCA.



WORKING WITH PARTNERS

WAVES has built strategic alliances with several other organizations that provide regional or global platforms for promoting natural capital accounting. These strategic partners include UNDP, UNEP, and the UN Committee of Experts on Environmental-Economic Accounting (UNCEEA). Key partner programs for WAVES in these agencies include TEEB, Green Growth/Economy, ProEcoServ, and the Poverty Environment Initiative. Under UNCEEA, the UN Statistics Division has a program to support implementation of the SEEA.

Some examples of concrete collaboration with partners include the following:

- Going forward, WAVES has agreed to pilot joint work with UNDP-UNEPs Poverty Environment Initiative (PEI) in two countries (to be determined). The goal would be to coordinate the NCA work of WAVES with the Public Expenditure Review by PEI.

- WAVES and UNEP-TEEB are exploring ways to collaborate on ecosystem valuation in the Philippines.

- WAVES is planning joint workshops and global events with UNDP and UNSD as well as with UNEP's Valuation and Accounting of Natural Capital for a Green Economy program.

- WAVES and UNSD will develop a plan for joint work on training materials, workshops, and potentially testing out ecosystem accounting in countries.

Other partners have contributed in kind by providing technical support or expertise—for example, the Australian Bureau of Statistics and the United Kingdom's Department for Environment, Food and Rural Affairs.

The private sector is also important. The Natural Capital Coalition (formerly TEEB for Business) is working with the International Finance Corporation and WAVES to define a work plan for helping the private sector incorporate the value of natural capital in their decisions.

With the organization Resources for the Future, the WAVES team is working to update and improve the forest accounts in the World Bank's global database for comprehensive wealth. The European Space Agency is working in the Philippines on using earth observation for ecosystem accounting. GIZ is working in Madagascar to analyze the mining sector. Conservation International (CI) is doing a pilot in Peru to field-test and replicate ecosystem accounts.

UNEP is co-chair of the Policy and Technical Experts Committee and works closely on developing an ecosystems methodology. WAVES co-sponsored and participated in UNEP's workshop to launch a new program called VANTAGE. WAVES is an official partner of the Ecosystem Services for Poverty Alleviation's (ESPA) Pages project in Madagascar on establishing links between poverty and ecosystems.

Civil society organization (CSO) partners such as CI, the International Institute for Environment and Development, GLOBE (Global Legislators Organization), the International Union for Conservation of Nature, the Nature Conservancy, World Resources Institute, and World Wildlife Fund have participated in the three partnership meetings held in Washington, DC.

TEEB
Poverty Environment Initiative
European Space Agency
UNEP
UNDP
International Union for Conservation of Natur
INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT
AUSTRALIAN BUREAU OF STATISTICS
Ecosystem Services for Poverty Alleviation's
Green Grow
Conservation International
The Nature Conservanc
GLOBE
The Natural Capital Coalition
UNCEEA
UN STATISTICS DIVISION
GIZ
World Resources Institute

AFRICA

REGIONAL TECHNICAL WORKSHOPS

Mauritius, May 2013: A three-day workshop on water accounts in Mauritius organized by the UNSD brought together participants from the national statistics offices, water and environment ministries. Countries that participated include Botswana, Mauritius, Namibia, Seychelles, South Africa, and Zimbabwe. The workshop provided in-depth technical training and stimulated productive dialogue among the participants, who are at different levels in the development of their accounts.

Uganda, December 2013: WAVES participated in the workshop "Developing an Implementation Strategy for the System of Environmental-Economic Accounting (SEEA)," organized by UNSD and hosted by the Ugandan Bureau of Statistics, with countries from the Economic Community of West African States (ECOWAS) and Common Market for Eastern and Southern Africa (COMESA) Regions. The seminar focused on the statistical and institutional requirements for the development of an initial statement of strategy for the implementation of the SEEA Central Framework and supporting statistics.

Botswana, October 2013: WAVES supported and participated in the ministerial meeting organized by the government of Botswana and Conservation International as a follow-up to the 2012 Gaborone "Summit for Sustainability in Africa" conference. Eight of the 10 countries that signed the Gaborone Declaration participated: Botswana, Gabon, Ghana, Kenya, Liberia, Madagascar, Mozambique, Namibia, Rwanda, South Africa, and Tanzania. In a signed communiqué, the countries agreed to set up an interim secretariat in Botswana for countries willing to undertake NCA in the Africa region. Botswana's water accounts were presented at the meeting and saw considerable interest from participants and the national media.

Delegates to the International Conference on Valuation and Accounting of Natural Capital for a Green Economy (VANTAGE) in Africa in Nairobi, Kenya, in December 2013

WORKING WITH PARTNERS

Kenya, December 2013: WAVES co-sponsored UNEP's workshop to launch a new program called Valuation and Accounting of Natural Capital for a Green Economy (VANTAGE). The event showcased international initiatives and successful country efforts for decision making to promote a green economy. The two-day program brought together 13 African ministers and vice ministers, the African Union Commission, UNEP, TEEB, UNDP, UN Statistics Division, international technical experts, practitioners, and high-level policy makers.

"WE CAN NO LONGER AGREE TO THE USE OF GDP AS A MEASURE OF SOCIAL PERFORMANCE ALONE IN THE FACE OF ENVIRONMENTAL DEGRADATION...NATIONAL BUDGETING SYSTEMS HAVE TO CHANGE TO REFLECT EITHER THE ENVIRONMENTAL DAMAGE OR ITS DETERIORATION."

Hon. Tshekedi Khama, Minister of Environment, Wildlife and Tourism, Botswana

40%

OF BOTSWANA'S WATER CURRENTLY GOES TO AGRICULTURE, WHICH PROVIDES JUST 2 PERCENT IN RETURN TO GDP, ACCORDING TO THE COUNTRY'S WATER ACCOUNTS

LATIN AMERICA AND THE CARIBBEAN

REGIONAL TRAINING WORKSHOPS

Brazil, September 2013: WAVES supported UNSD and the Brazilian Institute of Geography and Statistics on regional seminars on the 2012 SEEA (System of Environmental-Economic Accounting). These workshops were attended by over 50 officials from central banks, statistics divisions, and planning ministries from 13 countries in the Latin America and Caribbean region. WAVES contributed a session on policy applications of the SEEA.

Colombia, September 2013: Colombia's WAVES program led a regional workshop on ecosystem accounting attended by representatives and specialists from Belize Colombia, Costa Rica, and Peru. The workshop discussed Colombia's plan for ecosystem accounting and can serve as a model for other countries in the region.

"When we account for natural resources, like water, minerals, or energy, countries offer more precise data to those responsible for the formulation of public policies, in the search for the promotion of economic development with environmental sustainability."

DORA MARINA COC, APPOINTEE TO THE WAVES STEERING COMMITTEE FROM THE SECRETARIAT OF **PLANNING AND PROGRAMMING OF THE PRESIDENCY (SEGEPLAN)**

“WITHOUT ENVIRONMENTAL STATISTICS, THE POLICY-MAKING PROCESS IS BLIND. HOW DO WE ACHIEVE SUSTAINABLE DEVELOPMENT WITHOUT THE APPROPRIATE INFORMATION TO IDENTIFY NEEDS, SET GOALS, AND MONITOR PROGRESS?”

KRISTINA TABOULCHANAS,
environmental statistics specialist with the United Nations Economic Commission for Latin American and the Caribbean (ECLAC)

HIGH-LEVEL REGIONAL EVENTS

Panama, June 2013: A workshop was organized to launch the project “Development and Strengthening of Official Environmental Statistics through the creation of a Regional Framework in Latin America and the Caribbean.” This is funded by the Inter-American Development Bank (IADB) and led by the United Nations Economic Commission for Latin American and the Caribbean (ECLAC) and the Mexican Institute of Statistic Geography and Informatics (INEGI).

St. Lucia, June 2013: The conference “Green Economy as a Vehicle for Sustainable Development and Poverty Eradication in the Caribbean” was organized by the UNEP Green Economy program with the government of St. Lucia and the Caribbean Community and Common Market (CARICOM) Secretariat. Several Caribbean countries expressed interest in joining the WAVES partnership.

$16,691

PER CAPITA VALUE OF NATURAL CAPITAL IN GUATEMALA

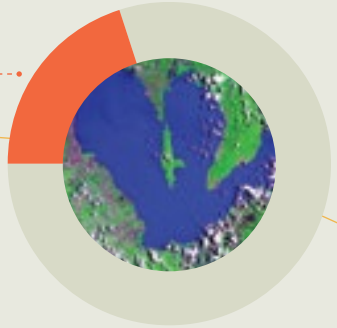
EAST ASIA AND THE PACIFIC

REGIONAL TRAINING WORKSHOP

Thailand, October 2013: Over 80 statisticians, economists, ecologists, and senior policy makers across Asia participated in a three-day workshop at the United Nations in Bangkok to look at ways of valuing natural resources so they can be better protected. The conference included technical discussions on "green accounting" systems and how to put value on "natural capital" such as mangroves, wetlands, coral reefs, forests, and water resources. The workshop was organized by UNEP, the South Asian Network for Development and Environmental Economics (SANDEE), and the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP).

15 MILLION PEOPLE

ONE-FIFTH OF THE PHILIPPINES' POPULATION BENEFITS FROM THE WATERS OF LAKE LAGUNA. AN ECOSYSTEM ACCOUNT WILL HELP THE GOVERNMENT ANALYZE TRADE-OFFS ASSOCIATED WITH ITS MANY USES.



"IT IS EASY TO TAKE OUR NATURAL RESOURCES LIKE CLEAN AIR FOR GRANTED BECAUSE WE DO NOT YET KNOW HOW TO ACCOUNT FOR IT. WITH WAVES WE WILL HAVE A SCIENTIFIC BASIS FOR THE VALUATION OF OUR NATURAL RESOURCES THAT WILL HELP US PLAN FOR ITS JUDICIOUS USE."

EDWIN DOMINGO, Director of the Department of Environment and Natural Resources Foreign Assisted Projects Office, Philippines

WORKING WITH PARTNERS

Samoa, August 2013: WAVES, working through our partners at the ABS, supported a regional SEEA training workshop for the Pacific Small Island Developing States in Samoa organized by the UNSD.

© IUCNweb/flickr

© Kim Seng/flickr

WAVES ON THE GLOBAL STAGE

The WAVES team participated in several events around the globe throughout 2013, presenting on the relevance of NCA to policy making and sharing experience from WAVES countries.

International conference "Global Implementation Programme for the SEEA," New York (June): Jointly organized by CBD, EEA, Eurostat, FAO, International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), UNSD, UNDP, UNEP and the World Bank, the conference had as its objectives to facilitate the implementation and outreach of the SEEA and to improve the scope, quality, and detail of environmental-economic accounts.

National Socio-Environmental Synthesis Center (SESYNC) workshop "Developing National Indicators of Ecosystem Services," Annapolis (June): Organized by the Natural Capital Project, CSIR, and GEO Biodiversity Observation Network, the workshop focused on reviewing new indicators that can be created and reported from existing data streams as well as explored future potential for additional indicators.

First Global Legislators Organization (GLOBE) Natural Capital Summit, Berlin (June 7–8): World Bank Director Juergen Voegele was invited to deliver the keynote speech. The summit brought together legislators from 20 countries and the final Summit Communiqué called on legislatures around the world to begin developing natural capital accounting legislation.

Workshop of the United Kingdom's Natural Capital Committee, London (November 11): The World Bank led two sessions on valuation methodology during the one-day review meeting for the United Kingdom's Natural Capital Committee.

"Integrating the environment into the economy is hampered by the almost complete absence of proper accounting for natural assets. What is not measured is usually ignored."

DIETER HELM, CHAIR OF THE UNITED KINGDOM'S NATURAL CAPITAL COMMITTEE

"It is crucial for politicians to know how useful and valuable natural capital is when deciding on policies."

FRENCH DEVELOPMENT MINISTER **PASCAL CANFIN**

Annual meeting of the London Group on Environmental Accounting, London (November 12–14): The London Group is the body of technical experts established by the UN Statistical Commission to develop methodology for environmental accounting. WAVES led a session on forestry accounting.

UN Expert Group Meeting on Modeling Approaches and Tools for Testing the SEEA Experimental Ecosystem Accounting, New York (November 18–20): WAVES representatives participated in the workshop focused on developing the experimental ecosystem accounting framework and identifying the potential models for valuing ecosystem services.

Expert Group Meeting on the Agricultural Cost of Production, organized by FAO's Statistics Division, Rome (November 18–22): The WAVES team met with FAO colleagues to discuss ways to improve wealth accounting for forests and agricultural land.

UN DESA conference on water and the Open Working Group on SDGs, New York (November 25–27): WAVES was presented at the UN DESA conference "Beyond WASH: Strengthening Capacity for Water Resources Management in the Post-2015 Development Framework." The World Bank made an intervention on NCA to the Open Working Group on SDGs.

WORKING WITH THE PRIVATE SECTOR

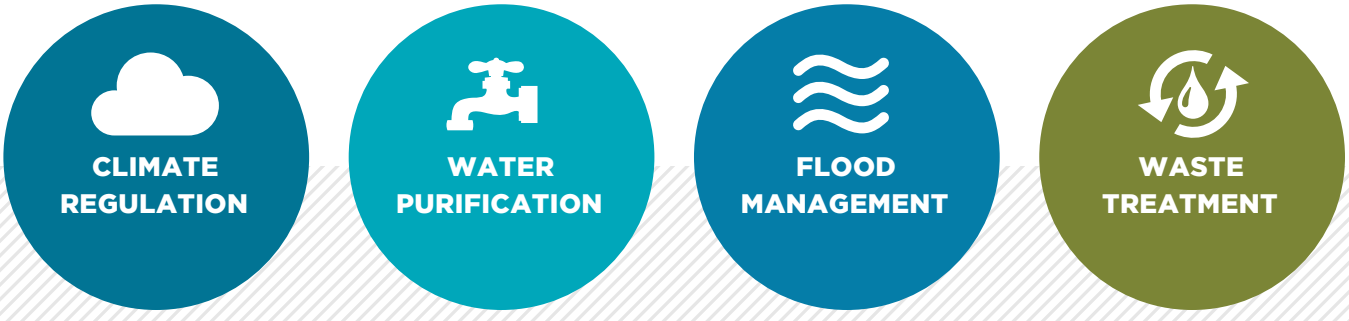
For businesses to be viable in the long term, the ecosystems and resources they depend on must be maintained. Yet, when it comes to the natural environment, we are seeing a rapid depletion of ecosystems that provide critical provisioning services (for example, water and food) and regulatory services (for example, climate regulation, water purification, flood management, and waste treatment)—also referred to as natural capital.

More and more companies are beginning to understand that the full environmental costs of doing business are not accounted for in financial disclosures and filings or in the sustainability reports and environmental performance metrics they produce.

During 2013, a number of global business groups—including the Natural Capital Coalition, the Cambridge Programme for Sustainability Leadership, the Natural Capital Declaration, Business for Social Responsibility and the World Business Council for Sustainable Development—have continued their groundbreaking work on developing methodologies for natural capital valuation at the company level.

A New Natural Capital Protocol for the Private Sector

In November 2013, the IFC and the Natural Capital Coalition launched a new project to develop and pilot a global framework for valuing natural capital in business decisions. The Natural Capital Protocol, as the framework is called, will seek to harmonize the growing number of approaches for assigning value to environmental assets, such as minerals or land, and externalities, such as damages from climate change or the depletion of natural resources, to promote better measurement, monitoring, and management. WAVES is a member of the steering committee for this work, and seeks to coordinate natural capital accounting at the national level and in the private sector.



NATURAL CAPITAL

The project, which is funded by the Swiss State Secretariat for Economic Affairs and the Gordon and Betty Moore Foundation, is not intended to invent new accounting methods. Instead, it will build on existing efforts, including the World Business Council for Sustainable Development's guide for valuing biodiversity and ecosystem services, to look at the entire picture of natural capital across different sectors and geographies.

The protocol, which will describe what should be considered in natural capital accounting, is expected to become the starting point for future standards on natural capital valuation. Businesses, investors, technical experts, and stakeholders in policy and research will provide input for the protocol, expected to be released by the end of 2015.

> "SOUND NATURAL CAPITAL MANAGEMENT GOES HAND IN HAND WITH BENEFITS FOR COMPANIES, COMMUNITIES, AND THE ENVIRONMENT."

USHA RAO-MONARI, Former Director, Sustainable Business Advisory, IFC

Natural Capital Declaration

Throughout the year, the Natural Capital Declaration (NCD) has continued to promote financial sector leadership on natural capital. The IFC chairs the steering committee that has been established to oversee and catalyze implementation of the NCD's new road map—its ambitious but pragmatic plan for mainstreaming natural capital in financial products and in accounting, disclosure, and reporting frameworks through four newly established working groups.

The NCD is a financial institution-led and CEO-endorsed initiative to integrate natural capital considerations into financial products and services, and to work toward their inclusion in financial accounting, disclosure, and reporting. The NCD has been convened by the UNEP-Finance Initiative and the Global Canopy Programme that together form the NCD secretariat.

At this time, the NCD has been signed by 45 financial institutions, including two development finance institutions (IFC and FMO) at the CEO level and by 34 supporting non-financial organizations. One of the NCD's key goals is to deliver robust, tangible, and practical solutions for the financial sector to manage risks and seize financing opportunities related to natural capital.

4. MOVING FORWARD ON METHODOLOGY FOR ECOSYSTEM ACCOUNTS

One of the key objectives of WAVES is to help develop internationally agreed guidelines for ecosystem accounting. The work on this front is led by the Policy and Technical Experts Committee (PTEC), a multidisciplinary body consisting of experts in economics, environmental accounting, natural sciences, and policy from the World Bank, UNEP, academic institutions, and governments. In addition to methodology development, PTEC also leads work to compile evidence on policy applications of natural capital accounts and to develop training materials.

FIELD-TESTING ECOSYSTEM ACCOUNTING

To operationalize the framework for ecosystem accounts as detailed in *SEEA: Experimental Ecosystem Accounts* and to test different methodologies to develop guidance on how ecosystem accounts can be compiled, PTEC is supporting pilot studies in three sites:

- Himachal Pradesh, India, is focusing on ecosystem accounting to support better land and forest management critical for the state's important hydropower industry. PTEC is testing two alternative modelling tools—InVEST (Integrated Valuation of Environmental Services and Tradeoffs) and SWAT (Soil and Water Assessment Tool)—to develop guidance for measuring and valuing soil retention and water-regulating services of forests.

- The University of Wageningen's Ecospace project is using spatial and biophysical modeling to measure ecosystem services in the context of land use change. The project is being implemented in Indonesia, the Netherlands, and Norway.

- Conservation International (CI), under the Ecosystem Values Assessment and Accounting (EVA), is taking a broad and practical approach to incorporating natural capital into decision making consistent with the SEEA.

(For details on each of these pilots, please see pages 40–45.)

For all three pilots, modest contributions from WAVES are being leveraged with substantial external resources: the pilot in India is largely being funded as part of a technical assistance program linked to the World Bank development policy loan with the government of Himachal Pradesh to promote sustainable development and inclusive green growth. CI has its own funding for its pilot in Peru, and WAVES has provided the project additional technical support to test the SEEA framework for ecosystem accounting. Ecospace is fully funded and is sharing its lessons learned with the group to guide the design and implementation of the other pilots.

Lessons learned from all three pilots are being captured in a guidance note on how to design pilots for ecosystem accounting that details the broad steps involved: (a) defining the scope of the pilot, (b) biophysical modeling, (c) valuation, and (d) integration with accounts.

Other guidance notes on valuing and accounting for ecosystems and ecosystem services have also been commissioned. They include the following:

- Valuation methodologies suitable for accounting for regulating ecosystem services;
- Accounting for coastal and marine ecosystems and their services; and
- Mapping, valuing, and accounting for watershed services.

At the annual PTEC meeting in November 2013, the group, working with a strategy paper drafted by PTEC member Professor Jeffrey Vincent (Duke University), discussed and established the strategic vision to guide research priorities for developing methodologies for ecosystem accounts. Members recognized the need to focus on the valuation and accounting nexus. It was agreed that the group will collaborate more closely with natural scientists to strengthen the biophysical modeling aspect of the research.

> “A BIG ADVANTAGE OF ECOSYSTEM ACCOUNTING IS THAT YOU CAN MONITOR THE SUSTAINABILITY OF NATURAL CAPITAL AND ALSO UNDERSTAND HOW YOUR NATURAL CAPITAL IS FEEDING INTO ECONOMIC ACTIVITY.”
>
> **LARS HEIN,** PTEC member and Associate Professor, University of Wageningen and leader of the Ecospace project

DEFINING STRATEGIC RESEARCH PRIORITIES

THE PTEC ANNUAL MEETING DETERMINED FIVE KEY PRIORITY RESEARCH AREAS:

1. **Testing different methods for valuing regulating services of ecosystems.** Multiple approaches exist for valuing a given ecosystem service, ranging from process-based models to statistical techniques to benefit-transfer approaches. PTEC will undertake a rigorous comparison of various methods for valuation.

2. **Understanding the impact of institutional context on economic service values.** It is well known that the supply of ecosystem services is contingent on the institutional context—for example, open-access fisheries generate no rents. To make the research more policy relevant, PTEC-supported research will estimate values for different institutional scenarios.

3. **Capturing ecological and social variation in values across space (and time).** The value of ecosystem services is typically location specific. Moreover, accurate information on spatial variation of ecosystem service values is important for formulating environmental policies. To further this understanding, PTEC will conduct valuation studies in multiple locations that exhibit relevant types of variation.

4. **Developing methods for scaling up valuation results to a relevant accounting level.** Valuation studies tend to be at the microlevel, focusing on environmental changes in particular locations. Estimating the aggregate value of ecosystem services requires adding up a large number of individual, location-specific estimates of service values. This poses a challenge: how to scale up estimates of ecosystem service values to a relevant accounting level? PTEC will support research on testing different methods for scaling up.

5. **Aligning valuation methods with the principles of valuation in the System of National Accounts (SNA).** The consistency of valuation concepts from environmental economics with SNA principles does not appear to be well understood, nor is the role of externalities. PTEC research will consider not only the benefits of service provision but also the costs, and will strive to express benefits and costs in marginal terms.

Students in the field measure ecosystem values during an introductory course on environmental accounting run by the Australian Bureau of Statistics (ABS) and Australian National University (ANU), December 2013

COMPILING POLICY APPLICATIONS

PTEC also oversees the compilation of evidence on the policy applications of natural capital accounting. This year, PTEC commissioned a study to survey statistical agencies in countries that compile natural capital accounts to gather systematic information on who is using these accounts and for what purpose. A report based on survey results from 12 countries has been completed and demonstrates that environmental accounts are policy relevant. They respond directly to stated policy goals in a number of nations. In other cases, data from the accounts are used as part of the evidence base to monitor policy success. In still others, they feed into analytical research that either leads to policy action or assesses the success of that action.

More such work is needed and PTEC will be working with partners like France on taking this forward. The next stage will include, for example, a survey of modeling applications that use SEEA data to show evidence on how analytical work has been or can be used by governments, or other decision makers, to inform or influence policy dialogue.

In the coming year, PTEC will support a report to focus on policy applications of wealth and NCA, making a case for why countries should build these accounts. The report will discuss potential policy applications and the types of policy issues that these accounts can help address, substantiated with evidence from country examples of actual policy applications. It will draw links to the World Bank's goals of eradicating extreme poverty and promoting shared prosperity in a manner that is sustainable over time and across generations, discussing the role of wealth and NCA in helping countries meet these goals. The report will highlight applications for macroeconomic policy issues and sectoral policy discussions touching upon the extractives sector and renewable natural resources–related sectors.

TRAINING AND CAPACITY DEVELOPMENT ON FOREST ACCOUNTING

This year has also seen the development of the *Forest Accounting Sourcebook: Policy Applications and Basic Compilation.* The sourcebook is an update of an earlier Food and Agriculture Organization (FAO) publication and complements a family of handbooks within the SEEA, notably the *Central Framework and Experimental Ecosystem Accounting*. A number of WAVES countries have prioritized forest accounts, and have asked for guidance on how to construct and subsequently use the accounts as a tool for policy making. The sourcebook will meet the growing demand for guidance and training material for compiling, implementing, and demonstrating policy applications of forest accounting.

The draft sourcebook will be presented during the three-day Global Workshop on Forest Accounting in May 2014. The workshop will bring the NCA "community of practice" on forest accounts together to share experiences and discuss challenges, responses, and next steps for mainstreaming forest accounting into development policy. Once finalized, the sourcebook and the supplementary training materials will be used for regional training workshops. Two such workshops are planned for fall 2014 in the Latin America and South Asia regions.

THE WAY FORWARD

Over the next year, PTEC will continue to support testing of methodologies for ecosystem accounting, developing guidelines for compiling ecosystem accounts and using them to inform policy, gathering evidence on policy applications of natural capital accounts, and developing training materials to support capacity development.

To leverage resources, spur research on ecosystem valuation and accounting by other research networks, and coordinate with efforts that have similar goals, the development of partnerships with other institutions will be prioritized.

PTEC, for one, expects to work closely with the ecosystem accounting pilots that will be carried out by the UN Statistics Divisions (UNSD) and The Economics of Ecosystems and Biodiversity (TEEB) initiative. WAVES will serve on the steering committee set up by the UNSD, and to increase collaboration, the UNSD has been invited to join PTEC. PTEC is in discussions with the Latin America and Caribbean Environmental Economics Program, the South Asia Network of Development and Environmental Economists, and the Environmental Economics Program for South East Asia to explore how research priorities identified as critical for the development of the methodology for ecosystem accounting can be supported by these networks. Discussions are well under way with the Swedish International Development Cooperation Agency and Swedish Environmental Protection Agency to support research on PTEC priorities through the Environment for Development network.

HIMACHAL PRADESH: VALUATION OF HYDROPOWER SERVICES

Forests are an important natural asset for the Indian state of Himachal Pradesh, providing a range of critical goods and services that are important to the state's economy. The two key growth sectors in the state—tourism and hydropower generation—depend on the sustainable management of forests. Water regulation and soil retention services provided by forests are important inputs into hydropower generation, for example, and forest-dependent nature-based tourism carries the potential to generate growth and jobs.

Yet, policy makers do not have the information they need to manage this important economic asset. This includes information not only on the extent of forest resources and how it is changing but also on the economic contribution of forests.

The technical assistance program of the World Bank's Development Policy Loan to Support Inclusive Green Growth and Sustainable Development in Himachal Pradesh is working with the state government to develop forest accounts. This effort also includes a pilot on mapping and valuing water regulation and soil retention services of forests for the hydropower sector to develop pilot ecosystem accounts.

R.K. Gupta, Principal Chief Conservator of Forests, S.S. Negi, Director, Department of Environment, Science, and Technology and Urvashi Narain, Senior Environmental Economist, World Bank, at a workshop on NCA in Himachal Pradesh in January 2014

KEY RESULTS

Over the last year, the Natural Capital Project at Stanford University has been working with the state government to develop a spatial map of the physical flow of water regulation and soil retention services provided by forests in three different watersheds. This assessment has also been used to develop an investment prioritization plan for the catchment area and to understand how current catchment area treatment plans can be improved. The team is also working to develop a valuation methodology that can be applied to run-of-the-river, as opposed to reservoir based, hydropower facilities. From the initiation of the project, key stakeholders from the Departments of Forestry, Energy, Environment, and Irrigation and Public Health have been involved to assess capacity, aid in data collection, and to provide key inputs to site selection. By increasing capacity through workshops, the project hopes to equip officials to use the models to replicate ecosystem service valuation in the future and to use these for policy analysis.

RELEVANCE FOR POLICY MAKING

The government of Himachal Pradesh spends substantial resources on catchment area treatment to minimize the environmental impact of development activities and to increase the flow of critical ecosystem services. However, the government has few tools to prioritize its investment plans and to monitor the effectiveness of these plans. An assessment of physical flows of ecosystem services through ecosystem accounts can help the government improve the effectiveness of its interventions.

The state government in Himachal Pradesh, India, has recognized the potential for a payment for ecosystem services (PES) program to enhance or maintain hydropower productivity by improving seasonal water flows and reducing erosion from non-forested areas. To initiate such a policy, the state government seeks to understand the relative value of different land uses and the current status of ecosystem provision and value in the state. The pilot program, organized under PTEC, is helping to demonstrate the potential for ecosystem service models to inform a system of natural capital accounting and increase buy-in among government leaders for a scientifically rigorous approach and further analysis.

NEXT STEPS

With continued engagement of key stakeholders in Himachal Pradesh, the next phase of the project will be to assess the economic value of the ecosystem services and to test methods for scaling up the values from the three pilot sites to the state level. The work will also include a conceptual comparison of two of hydrological models—InVEST and SWAT—to identify strengths and weaknesses of both. The work will culminate with a report identifying the findings, including data improvement priorities and capacity needs for future ecosystem service valuation assessments by the government.

CENTRAL KALIMANTAN, INDONESIA: SUPPORTING LAND MANAGEMENT

The Ecospace project launched a case study in Central Kalimantan, Indonesia, in 2010, with the aim of developing and testing ecosystem accounting methods to support the sustainable management of land and other resources. The work covered the entire province (about 150,000 square kilometers) and led to the development of new methodologies to quantify, map, and—where possible—value eight different ecosystem services provided in the province: timber production, rattan production, palm oil production, rice production, tourism, orangutan habitat, carbon sequestration, and carbon storage.

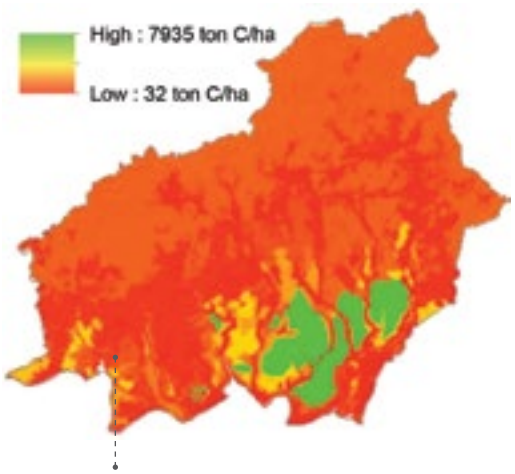
KEY RESULTS

The project produced maps that showed the physical and monetary aspects of these eight ecosystem services for 2010, for instance, a map showing carbon sequestration as a function of vegetation and soil type. A number of spatial methods have been tested—including various spatial extrapolation approaches—to scale up data points for specific locations to the scale of a province. The maps have been used to produce a provincial ecosystem account, in which the selected services are linked to land cover units.

RELEVANCE FOR POLICY MAKING

The project specifically analyzed how ecosystem accounts can be used to support policy making. One step was a workshop organized jointly with Palangka Raya University—the major state university in Central Kalimantan—to explore stakeholder interests in ecosystem services. Based on input from stakeholders at the workshop, including different government agencies, scientists, and NGOs, the project prepared a land-use zoning map that shows how production of palm oil can be expanded with minimal impact on ecosystem services.

CARBON STORAGE IN CENTRAL KALIMANTAN, INDONESIA



SPATIAL MAPS PRODUCED BY THE ECOSPACE PROJECT CAN HELP WITH LAND-USE DECISIONS BY SHOWING THE CAPACITY OF AREAS TO PROVIDE "ECOSYSTEM SERVICES" SUCH AS TIMBER PRODUCTION AND CARBON STORAGE. SOURCE: SUMARGA AND HEIN, 2013

NEXT STEPS

As a next step, Ecospace will consider the effects of drainage of the extensive peat area in the province, and the resulting soil subsidence and increases in flood risks, and how this affects ecosystem services supply. Also, ecosystem services will be closely linked to stakeholder interests and land-use policies. This will involve continued engagement with stakeholders in Central Kalimantan as well as further modeling. Two papers—one on the physical ecosystem accounting and the other on the link between policies and land management in Kalimantan—have been submitted to scientific journals and are still under review. The paper on monetary accounts is close to submission.

PERU: ECOSYSTEM VALUES ASSESSMENT AND ACCOUNTING

Farm on the edge of the Alto Mayo Protected Forest, San Martin, Peru. (CI/photo by Bailey Evans)

The Ecosystems Values Assessment and Accounting (EVA) is Conservation International's pilot initiative to design and field-test a replicable and scalable framework for incorporating nature's value into decision making and informing more sustainable policies and practices. Funded through a grant from the Gordon and Betty Moore Foundation, EVA's ultimate goal is to make explicit the relevance of natural capital to development. EVA is being implemented in Peru by Conservation International, with support from the government of Peru, through the Ministry of Environment and the Regional Environmental Authority of San Martin, situated in at the foothills of the Andes in northern Peru. WAVES participates in EVA by funding a technical expert from PTEC on ecosystem accounting.

Ylder Cotrina, a coffee farmer and beneficiary of the Alto Mayo Conservation Agreements (CI/photo by Rina Gamarra)

KEY RESULTS

Since the last PTEC partnership meeting, the EVA initiative completed a scoping mission that included selecting a subnational site for the field tests, site visits, and discussions with key decision makers in the national and regional governments. The EVA initiative has completed a scoping document for Peru's government, which presents the project's initial findings, establishes a common understanding of the context and policy, specifically recommends ecosystem accounting approaches to address these, and sets the stage for the implementation phase.

In November, an interministerial working group composed of representatives from Peru's Ministry of Environment and Conservation International met to officially launch the proposed ecosystem accounting efforts.

The project is finalizing the technical approach to ecosystem accounting that refines the components of biophysical assessment and economic valuation described in the *SEEA: Experimental Ecosystem Accounts* guidelines and is consistent with the guidance provided by UN SEEA on EEA.

RELEVANCE FOR POLICY MAKING

The goal of environmental-economic accounting is to make explicit the relationship between the environment and the economy, ultimately informing policy making toward sustainable development and adequate management of natural resources. The government of Peru recognizes the importance—both at the national and the regional levels—of information that can demonstrate the contribution of ecosystems to the economy as proposed by EVA's development and pilot testing of experimental ecosystem accounts. Examples of such uses include consistent and reliable information on ecosystem services that will allow its incorporation into planning processes, such as priorities for conservation and restoration, policy development for fines and compensation mechanisms, and incentives and subsidies, to name a few. EVA hopes to support the regional government leverage such ecosystem information for policy applications in support of their existing green growth strategy, one that supports human development in a competitive economy and is socially inclusive, environmentally sustainable, and peaceful. The project anticipates specific support to regional land use planning, particularly as it refers to the identification of priority areas for forest conservation and promotion of sustainable economic activities.

NEXT STEPS

Next steps include working with the government to assess the ecosystem assets of San Martin, using the *SEEA: Experimental Ecosystem Accounts* guidelines as a compass, while simultaneously taking the opportunity to refine its proposed biophysical and economic methods for accounting. We have begun compiling information, including changes in land cover/use over time and a determination of the ecosystem extent, condition, and capacity to provide services. We anticipate completing a draft of the accounts by the beginning of 2015. Lastly, a synthesis report will be produced to inform both public and private sector policies about including ecosystem services in on-the-ground decision making, and to improve environmental management practices.

5. INTEGRATION OF WEALTH ACCOUNTING IN WORLD BANK OPERATIONS

Wealth-based macroeconomic measures of sustainable development that are championed by WAVES are on their way to being mainstreamed in the World Bank's operations. As part of the replenishment meetings for the International Development Association (IDA) program in 2014, a new Results Measurement System was adopted that includes changes in wealth per capita as one of the sustainability indicators. This indicator, which builds on natural capital accounting, was also adopted as a key indicator for the World Bank Group's Corporate Scorecard that was presented in the Spring Meetings of the World Bank and International Monetary Fund in April.

A World Bank Tool to Measure Sustainability

As part of the IDA replenishment meetings in 2014, a new Results Measurement System was adopted with a set of sustainability indicators, including the number of countries with wealth depletion. Also the new World Bank Group Corporate Scorecard presents this indicator to describe the overall development context.

This indicator, 'change in wealth per capita', measures whether countries are saving enough to offset depreciation of manufactured capital and depletion of natural capital while sustaining future economic growth for their (growing) populations. Negative changes in wealth per capita—particularly over several years—imply that a country is becoming poorer by leaving behind fewer resources for future generations. This measure is based on adjusting gross national savings for changes in physical, human, and natural capital, and accounting for the wealth-diluting effects of population growth.

> "NATURAL CAPITAL ACCOUNTING SHOULD BE ONE IMPORTANT NEW TOOL IN THE GLOBAL TOOLBOX TO ADDRESS CLIMATE CHANGE, POVERTY ERADICATION, AND ECONOMIC DEVELOPMENT."
>
> World Bank Group President, **JIM YONG KIM**

Systematic country diagnostics, identifying the most critical constraints and opportunities facing a country, will build on this wealth accounting framework. Change in wealth per capita will serve as a key indicator to analyze risks to growth, income distribution and poverty reduction.

History of Wealth Indicators

This is the first systematic attempt at including wealth indicators in World Bank business since the work began in 1990 to construct a global database of country-level comprehensive wealth measures.

In 1999, the adjusted net saving (ANS) indicator, also called genuine saving, was published as a complementary indictor to comprehensive wealth. Today, the World Bank publishes the ANS indicator for more than 200 countries in the *World Development Indicators* and *Little Green Data Book*, the World Bank's annual compilation of environment data. ANS monitors whether depletion of natural capital, such as minerals or forests, is compensated for by investment in other assets, such as human capital or infrastructure.

In recent years, the demand for analysis using ANS has grown and is helping resource-rich countries such as Ghana, Guinea, Guinea-Bissau, Indonesia, Liberia, Mauritania, Mozambique, Sierra Leone, and Timor L'este, among others, to manage their mineral wealth. This has helped strengthen the World Bank's dialogue with countries about economic growth and sustainable development strategies (see box on Mauritania, page 49).

Working Through Development Policy Loans (DPLs)

WAVES provides technical support to other countries through related programs and funding instruments within the World Bank Group. In India, work on forest accounts is part of the Development Policy Loan to Support Inclusive Green Growth and Sustainable Development in Himachal Pradesh. WAVES is also in discussions with Gabon, Bhutan, and Vietnam about mainstreaming NCA into upcoming World Bank operations for technical assistance. Engagement in Turkey and Indonesia is through the ongoing Green Growth dialogue.

WAVES has been reaching out to other global practices (formerly departments) in the Word Bank to promote mainstreaming of NCA in Bank operations. WAVES has organized internal training sessions on the SEEA for other global practices at the World Bank and the IFC, especially on water, forests, and the extractives. Joint training seminars are being planned with the Water Global Practice. WAVES is exploring how forest accounting can support the work done by the Forest Investment Partnership (FIP).

WEALTH ACCOUNTING SHEDS NEW LIGHT ON MAURITANIA'S RICHES

The Sahelian country of Mauritania is a lower-middle-income country where poverty is still daunting, affecting more than 40 percent of the population. In recent years, Mauritania has recognized that GDP does not give the full picture of the country's economic potential or the sustainability of growth in the long run. Using the wealth accounting methodology, Mauritania has been able to estimate the true value of its assets and its prospects for long-term growth.

A sizable portion of Mauritania's wealth comes from nonrenewable resources such as iron ore and recently discovered deposits of gold, oil, and natural gas. The fisheries sector also contributes significantly to the country's income.

Comprehensive wealth accounting measures the value of different components of wealth using existing and estimated data for produced capital, natural capital, and human capital. It is an especially useful tool for countries rich in natural resources—where more than 30 percent of total wealth may be represented by natural capital—because an important development challenge for these countries is to leverage natural capital to diversify and build other forms of capital.

The findings for Mauritania show the country's comprehensive wealth estimate is equivalent to about US$60 billion—44 percent of which is derived from natural capital, 44 percent from intangible capital (human and social), and 12 percent from produced capital.

The wealth accounting results came out just as the government was renegotiating a fisheries protocol with the European Union (EU).

The protocol is important for both parties—it brings approximately €70 million of financial compensation to Mauritania per year for fishing rights access in Mauritania's waters (of which €3 million is development aid to the local fisheries sector) and is the EU's most important fisheries agreement in terms of volume, variety of fisheries products, and financial contribution.

ESTIMATE COMPOSITION OF NATURAL WEALTH IN MAURITANIA, 2013

Obtaining quantitative estimates of the wealth and rents coming from the fisheries sector helped Mauritania negotiate a new agreement with the EU.

This analysis is likely to increase awareness among policy makers and other stakeholders about the importance of responsibly managing national wealth and utilizing renewable and nonrenewable resources wisely to ensure long-term growth and shared prosperity.

6. COMMUNICATING NATURAL CAPITAL ACCOUNTING

Communication is vital to the success of WAVES. Tailoring our communications to key audiences has been essential to increasing the uptake of natural capital accounting at the country level.

Over 2013–14, WAVES expanded its reach to a large and diverse global audience via our website, e-newsletter, and social media.

The WAVES e-newsletter, which was launched in March 2013 with just over 300 subscribers, has become a cornerstone of our communications efforts and now reaches more than 1,000 individuals a month. Its subscribers and readers include legislators and policy makers, nonprofits, international institutions, donors, academics, and the private sector.

The newsletter features NCA work in countries, links to relevant articles and news, and highlights the latest publications and events. Our dispatches, "News from the Field," are first-person accounts from team members or partners' engagements with countries. The newsletter highlights work done by our partners and the private sector on advancing NCA.

Newsletter readership is well above industry standard, at upward of 30 percent a month, and the newsletter plays an important role in directing readers back to the content on the WAVES website, increasing page views on the site.


Newsletter, Issue 9, October 24, 2013

WAVES

Wealth Accountin
Valuation of Ecos

WAVES is a global partnership that aims to promote sustainable national accounts used to measure and plan for economic gro resources. Learn More

Website | About Us | Natural Capital Accounting | Our Appr

WAVES will work with the Colombian Government to quantify functions of Lake Tota. Photo by Jess Kraft/Shutterstoc

Dear Colleagues,

The message to incorporate Natural Capital Accounting (NCA) in post-2015 development agenda reached presidents, prime minis other high-ranking officials at the United Nation's High-Level Pol Forum on Sustainable Development last month. World Bank Grou President, Jim Yong Kim, spoke at the forum's opening session that NCA should be "one important new tool in the global toolbox address climate change, poverty eradication and economic deve

WAVES is engaging at the regional and international level with h We participated in a follow-up meeting to last year's Summit for Sustainability in Africa, led by the Government of Botswana, wh countries agreed to formalize the path forward in making the Gal Declaration work on the ground in each of the 10 signatory Afric countries. We also joined participants from 13 countries in the Laun America and Caribbean region to develop a strategy to adopt the central

Newsletter, Issue 13, February 27, 2014

WAVES

Wealth Accounting *and the* Valuation of Ecosystem Services

WAVES is a global partnership that aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. Learn More

Website | About Us | Natural Capital Accounting | Our Approach | Partners | Events | Publications

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A Commitment to Capture Forests' Value High in the Himalayas

Blog: Reverse the Curse - Transforming Resource-Driven Economies

Course on Environmental Accounting Takes off in Australia

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Upcoming Events

Recent Publications

NCA in the News

News from our Partners

Events

Indian officials launch work on forest accounts to capture forests' contribution to economic growth in mountainous Himachal Pradesh. Photo: © World Bank / Curt Carnemark

Dear Colleagues,

In the last few days, we have seen several world leaders effectively make the economic case for natural resources. These remarks have been very encouraging for us working on Natural Capital Accounting (NCA) and show a global momentum building on the issue.

At the Economist's World Oceans Summit in California, Prince Charles of Wales called on ocean industries and politicians to support the ocean's "Blue Economy" by "aligning financial capital with maintenance of natural capital."

In a prime time television appearance in Australia, International Monetary Fund Managing Director Christine Lagarde was asked if GDP goes far enough to measure the long-term viability of a national economy. Lagarde responded that although GDP is a recognized and established accounting system for countries, it is not sufficient, does not account for externalities and "does not account for the damage that we do to the environment." She suggested the use of a combined, alternative system that takes into

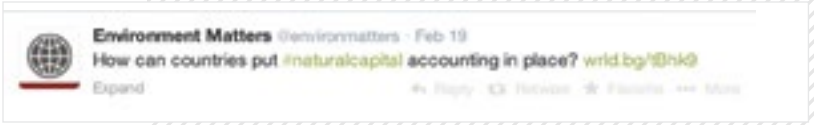
Since the newsletter's launch, both the number of visits—and visitors—to the WAVES website doubled compared to the previous year. Over the past year, we had **28,500 visits and nearly 75,000 page views** (March 2013–March 2014).

We also regularly contribute to the World Bank twitter feed @environmatters to help drive traffic to the website and leverage similar WAVES partners' work.

Partnering with the London-based International Institute for Environment and Development (IIED), we are in the process of developing a vibrant online knowledge platform to support and provide momentum to WAVES partnership countries and global stakeholders. The platform will help catalogue WAVES work and provide a stage for sharing best practices, resources, materials, and collaboration tools, including documents on how to implement NCA and wealth accounting. The knowledge platform is expected to go live in the year ahead.

IIED will also work with us to further develop in-country communications strategies to build understanding of NCA and catalyze specific policy discussions. Detailed stakeholder analyses will analyze how different stakeholders perceive NCA. Based on this analysis, tailored communications strategies will be developed.

The WAVES website is now available in Spanish, which is enabling Colombia, Costa Rica, Guatemala, and several other Spanish-speaking countries to form an active community of practice on NCA.



#NaturalCapital

7. COUNTRY REPORTS

inset (bird) photo: © Ray Muzyka/flickr
inset (frog) photo: © dutchbaby/flickr

BOTSWANA

BACKGROUND

Botswana has relied on diamonds for economic growth for a long time and is now looking to other sectors to provide a new growth model. One limiting factor is water, a scarce resource. By getting systematic and organized information on water, the government will be able to identify which sectors are less water intensive and can be targeted for growth, opportunities to increase water efficiency, and options for decoupling growth from water consumption.

Botswana was one of the first counties to pilot natural capital accounting in the 1990s and early 2000s under the Natural Resource Accounting Programme of the Department of Environmental Affairs. WAVES first engaged with the Government of Botswana in July 2011 through a series of discussions and a workshop with key government officials, after which an official request to join WAVES was issued by the Ministry of Finance and Development Planning (MFDP).

INSTITUTIONALIZATION

WAVES is led by the MFDP, where the deputy permanent secretary for macroeconomic policy chairs the WAVES-Botswana National Steering Committee. Other members of the steering committee include deputy permanent secretaries

from the Ministry of Environment, Wildlife and Tourism; the Ministry of Minerals, Energy and Water Resources; the Ministry of Lands and Housing; the Accountant General; similarly ranked staff from Statistics Botswana; the finance and development manager of the Ministry of Infrastructure Science and Technology; and the CEOs of the Botswana Chamber of Commerce and Industry Management (BOCCIM) and the Botswana Tourism Organisation.

The Botswana Economic Advisory Council (BEAC), a ministerial-level group from government and private sector, chaired by Botswana's President Ian Khama, has expressed strong support for the WAVES work program since the preliminary Botswana water accounts were presented in November 2012. WAVES-Botswana has been providing regular progress reports as part of the package of briefing materials for the biannual BEAC meetings.

The steering committee meets at least twice a year, one month before the BEAC's biannual meetings, in order to approve the biannual progress report on WAVES to BEAC. The technical work for WAVES is directly overseen by working groups established by and reporting to the steering committee. The Water Accounting Working Group, chaired by the deputy permanent secretary for water affairs, has worked on the water accounts. Similar working groups have been established for land accounts, ecosystem accounts, and mineral and fiscal policy accounts. WAVES is collaborating with the Working Group on Tourism, a group previously established by the government.

The WAVES-Botswana National Steering Committee met in September to review the first year's progress on implementation of the work plan and to provide guidance on the next year's work. It agreed to proceed with all four components of the work plan, continuing the work on water accounts and beginning work on land and ecosystem accounts, with a particular focus on tourism; mineral and energy accounts; and macroeconomic indicators.

PROGRESS

In the first year of implementing the work plan for 2012–2016, WAVES-Botswana updated its water accounts from the 1990s to better assess the availability, uses, and economic contribution of this scarce resource. The second phase of the work plan is currently under way, covering the implementation of technical activities. The work plan identifies four priority areas for natural capital accounting: (1) water accounts, (2) energy and mineral accounts, (3) land and ecosystem accounts, and (4) macroeconomic indicators of sustainability.

WATER ACCOUNTS

Work on the water accounts has emphasized the institutionalization of the water accounting tool within government. A road map toward full institutionalization has been developed with the Department of Water Affairs, which envisaged establishing a water accounting unit to lead and coordinate water accounting. A policy brief on water accounts has been drafted and is under review by the Department of Water Affairs. The Department of Water Affairs approved the Water Accounts Report and the plan for the next two-year phase of work.

MINERAL ACCOUNTS AND FISCAL POLICY

Given the importance of minerals to the economy, preliminary mineral accounts were compiled over the past year with an emphasis on the link to macroeconomic and fiscal policy. The government is currently reviewing the first report.

LAND AND ECOSYSTEM AND TOURISM ACCOUNTS

A Technical Working Group on Ecosystem Accounts has been established, led by the Ministry of Environment, Wildlife and Tourism. A Working Group on Tourism has already been established by the government of Botswana and will work closely with the ecosystem group. A presentation on WAVES and the land and ecosystem accounts was given at a senior management meeting at the Ministry of Lands and Housing. The first step in the complex process of constructing ecosystem accounts is a detailed scoping study. This study was delayed until basic tourism statistics could be updated for recent years. These statistics are now being updated and the scoping study is expected to begin in June or July 2014.

ENERGY ACCOUNTS

Energy accounts were not part of the original work plan, but based on the success of the water accounts and the serious challenges in providing electricity in Botswana, the Ministry of Minerals, Energy and Water Resources approached WAVES to consider supporting similar accounts for the energy sector. The first step was a scoping study for energy accounts, carried out in March 2014 in cooperation with the United Kingdom's Department for Environment, Food and Rural Affairs (DEFRA).

> "BOTSWANA'S PARTICIPATION IN GLOBAL PROGRAMS SUCH AS...THE WEALTH ACCOUNTING AND VALUATION OF ECOSYSTEM SERVICES WILL (HELP DETERMINE) THE VALUE OF NATURAL RESOURCES AND ECOSYSTEMS TO SOCIOECONOMIC DEVELOPMENT."

Botswana's Minister of Minerals, Energy and Water Resources, **ONKOKAME KITSO MOKAILA**

OUTREACH EFFORTS

- Six participants from Botswana attended the workshop "Sharing Implementation Experiences of Water Accounts and Statistics for Better Policy Making in Southern African Countries (Botswana, Mauritius, Namibia, Seychelles, South Africa, and Zimbabwe)," which was held in Mauritius, May 8–10, 2013, jointly organized by the United Nations Statistics Division and the Division for Sustainable Development, Southern African Development Community, the World Bank, and the Government of Mauritius.
- The WAVES Capacity Building Workshop was held on August 28, 2013, at World's View Mokolodi Conference Center. The main objectives of the workshop were to create awareness about WAVES in Botswana and to increase awareness about the critical links between economic growth and NCA.
- In October 2013, WAVES supported and participated in the follow-up ministerial meeting to the 2012 Gaborone "Summit for Sustainability in Africa" conference. Eight African countries reaffirmed their commitment to natural capital accounting. Botswana's water accounts were presented at the meeting that saw considerable interest from the national media. Following this, WAVES provided technical support on natural capital accounting to the African Ministerial Conference on the Environment (AMCEN) meeting.
- A training seminar was held for the MFDP, Statistics Botswana, and the Ministry of Minerals, Energy and Water Resources in February 2014. Water accounts featured prominently at the "Water Pitso" in March 2014, a large, annual national workshop on water issues drawing participants from a broad range of stakeholder groups.

COLOMBIA

BACKGROUND

Watersheds in the Colombian mountains provide important ecosystem services that are vital to the economy. They are the basis for crops, livestock, wood fuel, and fish production. They also prevent erosion, regulate flooding, and are the source of water for downstream urban areas. The Colombian capital, Bogotá, is surrounded by reserves and national parks that are vital for maintaining the city's water supply while also being important reservoirs of biodiversity. Despite Colombia's forest wealth, the country has not avoided intense deforestation due to the expansion of agriculture and raising livestock. It is estimated that environmental degradation in Colombia represents a loss of 3.7 percent of GDP.

Colombia has a long history with environmental accounts and has already introduced stock accounts for energy and mineral resources as well as expenditure accounts for environmental protection. The WAVES program in Colombia is building on existing work by bringing together all relevant stakeholders to work toward constructing natural capital accounts, with the goal of making the accounts relevant to public policy.

INSTITUTIONALIZATION

The WAVES-Colombia National Steering Committee includes the National Planning Department (DNP); National Statistics Office (DANE); Ministry of Environment and Sustainable Development; Institute of Hydrology, Meteorology and Environmental Studies (IDEAM); and the Office of the Comptroller General. The committee is responsible for developing the work plan and budget for WAVES implementation. It is supported by a technical committee.

The lead agency for WAVES in Colombia is the DNP. Building on earlier efforts to develop environmental accounts by DANE, and in coordination with the other members of the steering and technical committees, the DNP is advancing the WAVES implementation process in the country by actively bringing all key

> WE SEE IT [WAVES] AS A GREAT OPPORTUNITY, BECAUSE IT IS A VALUABLE TOOL THAT WILL ALLOW US TO HAVE AND GATHER INFORMATION WITH MORE ORDER, PRIORITIZE INFORMATION GATHERING AND KEEP IT IN AN ORDERLY AND CLASSIFIED MANNER, SO WE CAN USE IT BETTER FOR DECISION MAKING."

JOSÉ RICARDO LÓPEZ, Director of the Regional Autonomous Corporation of Boyacá, Colombia, the environment authority for Lake Tota

stakeholders to construct water accounts. The steering committee met in September 2013 to develop and approve the work plan moving forward. In addition, a WAVES coordinator has been hired to focus on interagency coordination and facilitate implementation.

Natural capital accounting was mentioned in the 2013 State of the Nation address to parliament by President Juan Manuel Santos: "Internally, we are exploring practical measures to ensure that the true value of our own natural capital is integrated into our future national development planning."

OUTREACH EFFORTS

Efforts have been made to reach out to stakeholders, including nongovernmental organizations (NGOs), universities, and local experts. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and representatives from academic institutions were invited to a WAVES workshop in April 2013 organized by the DNP and the World Bank. A regional training workshop was held in Bogotá, September 24–27, 2013, to examine the international experience of using environmental accounts in decision making. Participants included representatives from Belize, Costa Rica, Guatemala, Mexico, and Peru; regional autonomous corporations; the Humboldt Institute; national parks; and representatives from several Colombian ministries.

PROGRESS

Work has started on water and forest accounts for three pilot watersheds in different parts of the country: Cuenca Rio Chinchina (Caldas), Cuenca Alta del Rio Suarez (Santander), and the Laguna de Tota (Boyacá). The first results for Laguna de Tota are expected by June 2014; a detailed work plan for the next six months has been drafted.

At its September meeting, the steering committee decided to extend the work beyond the initial three pilot watersheds and develop integrated national-level accounts for water and forestry (ecosystem accounts) beginning with one of the five major water basins in Colombia.

Teams are working within DANE and IDEAM to prepare the first set of accounts by May 2014. In addition, environmental experts are drafting two papers dealing with the catalyzing effect of the WAVES initiative in promoting the use of existing environmental accounts and showcasing additional possible uses. A series of events are planned for the end of June 2014 to increase awareness of the WAVES process, and to increase stakeholder participation.

COSTA RICA

BACKGROUND

Costa Rica has had a number of achievements in protecting and managing its natural resources. The country pegs its future development on the growth of tourism, the conservation of forests, and achieving carbon neutrality by 2021. Hydroelectricity already accounts for around 80 percent of the country's electricity, and Costa Rica plans to increase its share; this will require careful land management to preserve water flows and control sediment runoff. As increasing urbanization, demand for energy, and agricultural growth exert pressure on natural resources, Costa Rica is at a crucial juncture in building the foundations of green growth.

Policy makers have asked for more precise information on alternative uses of land, especially forested land, and the effectiveness of different policy instruments for managing natural resources like water. WAVES will support construction of water accounts to organize the existing hydrological data into a coherent and consistent framework. The forest accounts will incorporate physical and monetary values of services provided by forests to inform policy decisions.

INSTITUTIONALIZATION

WAVES-Costa Rica is led by a steering committee formalized in September 2013, consisting of the Ministry of Planning (MIDEPLAN), the Ministry of Finance (MH), the Ministry of Environment and Energy (MINAE), the Central Bank of Costa Rica (BCCR), and the National Institute for Statistics and Census (INEC). The national steering committee (NSC) met in December 2013 and agreed on its operational guidelines and a short-term work plan for January to June 2014. The BCCR is the leading agency and secretariat of the NSC until June 2014. Two technical committees are working in coordination with the NSC to develop the WAVES initiative in Costa Rica: a water technical committee and a forests technical committee. These committees will be responsible for database development and information management, statistics validation, and interagency technical work.

After the SEEA 2012 Workshop held at the BCCR in December 2013, an environmental accounts work team was created at the BCCR, composed of two staff members, a WAVES consultant, and a WAVES national coordinator. The work team has a permanent office at BCCR and works under the direction of the Macroeconomic Statistics Department. The goal is to contribute to creating the capacity for maintaining a mechanism for production of natural capital accounts in the long term. This process runs in parallel with the BCCR 2008 System of National Accounts (SNA) project, which will be implemented at the end of 2015.

The Costa Rican congress is considering a natural capital law that calls for all environmental impact assessments of investments to be based on information provided by natural capital accounting. The WAVES team has had several discussions with Costa Rican congressional representatives on developing this law.

> “WE DO NOT KNOW HOW MUCH WE ARE INVESTING ANNUALLY ON THE ENVIRONMENT. WITH THESE REAL ECONOMIC VALUES, COSTA RICA WILL HAVE GOOD ENVIRONMENTAL ACCOUNTING, MAKE BETTER DECISIONS AND DEVELOP BETTER IN THE FUTURE, SHOWING THAT THE ENVIRONMENT IS ALSO GOOD BUSINESS.”

Costa Rica MP **ALFONSO PÉREZ GÓMEZ,** who introduced a natural capital law in the Legislative Assembly in 2013

PROGRESS

Starting in January 2014, the Central Bank of Costa Rica environmental accounts team has participated in meetings and hosted mini-workshops to present and discuss the SEEA 2012 framework and WAVES work with various governmental departments and institutes responsible for the production of primary official data and information related to water and forest resources.

The preparation phase has been completed and the NSC was established. The NSC and stakeholders discussed a feasibility study and a policy note in two technical workshops. A short-term work plan (January 2014–June 2014) was approved by the NSC and WAVES secretariat in December 2013 and is being implemented. Work to develop water and forest accounts started in January 2014.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WATER ACCOUNTS

Preliminary water account modules have been compiled to organize the hydrological and economic information of the country in a coherent and consistent framework. Water statistics from national accounts, hydrological balances, water use and pollution databases, and water companies' financial statements, among other sources, are used to collect and process required information for the account.

FOREST ACCOUNTS

A preliminary forest account that incorporates physical and monetary values is being developed, based on information from national accounts, FONAFIFO operations (payment for ecosystem services contracts; economic valuation of alternative land use), and biophysical data from SINAC (2013 national forests map and inventory).

OUTREACH EFFORTS

New York, United States: Representatives from MINAE and WAVES-Costa Rica participated in the international conference "Global Implementation Programme for the SEEA," held in June 2013.

Rio de Janeiro, Brazil: Representatives from INEC and BCCR participated in the "Developing Programmes for Implementing the 2008 SNA, the 2012 SEEA, and Supporting Statistics in the Latin American Region" workshop, in September 2013.

San José, Costa Rica: A two-day training workshop on the System of Environmental-Economic Accounting (SEEA 2012) was conducted by WAVES on December 11–12, 2013. More than 20 representatives from BCCR, MH, and MIDEPLAN attended.

San José, Costa Rica: Videoconference and follow-up technical discussions of the BCCR natural accounts team with Ricardo Martínez-Lagunez (UNSD adviser) on two training tools: *The Unu-Water Exercise: A Step-by-Step Introduction to Environmental-Economic Accounts for Water (SEEA-Water)* and *Guidelines for the Compilation of Water Accounts and Statistics* in March 2014.

San José, Costa Rica: Participation in the EcoEco Alternatives 2014 Congress "Varieties of Ecological Economics: Advancing Towards Alternatives for People and Ecosystems in Latin America" at the Universidad de Costa Rica, March 6–8, 2014. Presentation of the WAVES initiative during the "Natural Capital" working session.

San José, Costa Rica: Participation of national accounting staff from BCCR at the official presentation of the National Forest Map 2013, organized by MINAE. The National Forest Inventory 2013 will be officially presented in May 2014.

Two-day training workshop on the System of Environmental-Economic Accounting (SEEA 2012) conducted by WAVES at the Central Bank of Costa Rica in December 2013

MADAGASCAR

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BACKGROUND

Madagascar's unrivaled biodiversity is undoubtedly its biggest asset. Nearly all of the plant and animal species found on the island are endemic. This rich and unique mix of flora and fauna generates significant foreign exchange earnings, with up to 130,000 tourists visiting the country's 6.9 million hectares of protected areas each year. Other natural resources are also important at the level of the national economy. Fisheries already contribute more than 2 percent of GDP and the growing large-scale mining sector is expected to contribute 15 percent of GDP in coming years.

A lesser known yet vitally important role of the country's terrestrial forests and coastal and marine natural resources is found in the wide range of ecosystem services that they provide for Malagasy local communities. These services include timber, food, water, fuel, and construction materials that are essential for the livelihoods of around 16 million people.

It is estimated that natural capital represents roughly half of Madagascar's wealth. But there is no systematic accounting of the economic or biophysical values of the country's natural assets.

WAVES will help Madagascar generate the economic information that it needs to improve decision making. In particular, it will develop macroeconomic indicators that take account of the use of natural capital and will develop accounting systems in the mining, water, and forestry sectors.

INSTITUTIONALIZATION

In early 2012, a national steering committee was established under the leadership of the Ministry of Economy and Industry and Conservation International, a leading environmental nonprofit organization working in Madagascar.

In June 2012, the government joined the World Bank's 50:50 Call to Action for the implementation of natural capital accounting and endorsed the Gaborone Declaration and Communiqué that arose from the "Summit for Sustainability in Africa" conference.

In August 2012, the steering committee agreed upon a work plan that includes developing accounts in the sectors of mining, water, and forestry/protected areas. The work plan also contains significant support for capacity-building and awareness-raising activities.

In September 2013, the second meeting of the national steering committee was held. Key points of discussion included the need to better engage with the private sector, the need to produce progressive results so as to demonstrate the value of WAVES to national decision makers, and the need for the steering committee to play a more active and regular role in overseeing WAVES activities.

PROGRESS

A feasibility study was finalized in September 2012 and two policy notes were produced, one on fisheries and one on the value of ecosystem services in the CAZ watershed. Comprehensive consultations with government, civil society organizations, and development partners were carried out during the preparation of the study.

The technical working groups for the mining, forestry, and water sectors have been meeting regularly. In June 2013, they participated in a series of videoconferences with an international environmental accounting specialist to confirm the policy priorities. Between June and September they carried out data collection under the guidance of the WAVES national coordinator.

A fourth technical working group—dealing with macroeconomic indicators—was established in September 2013. The mandate of this group, led by the Secretary-General of the Ministry of Economy and Industry, is to select the macroeconomic indicators that will be developed through WAVES activities, and to develop and implement a strategy to ensure the high-level diffusion of these indicators.

MINING ACCOUNTS

The structure for the monetary and physical stock accounts for industrial mineral resources has been finalized. A process to assess feasibility of accounts for gold and precious stones from artisanal and small-scale mining activities was decided. Initial data for use in mining stock accounts has been collected and data gaps identified.

> THE TOOLS THAT WAVES WILL ESTABLISH ALLOW THE ECONOMIC VALUE OF NATURAL RESOURCES TO BE INTEGRATED INTO ANALYSIS AND MONITORING OF MACROECONOMIC PERFORMANCE OF THE COUNTRY."

JEAN-GABRIEL RANDRIANARISON, Secretary-General of Madagascar's Ministry of Economy and Industry and co-president of the WAVES steering committee

MACROECONOMIC INDICATORS

Several macroeconomic indicators for development in Madagascar have been identified, including value of natural wealth, volume index of natural resource depletion, and adjusted net saving. A discussion note on national wealth management and the role of NCA in national development planning has been prepared.

WATER ACCOUNTS

In consultation with the government, the structure for flow accounts and renewable water stock accounts at the national level (disaggregated to basin level) has been finalized. There is an agreement to use hydrological modeling to construct accounts due to lack of observed data.

FORESTRY/PROTECTED AREAS

There is agreement to develop two series of accounts: (1) forestry (exploitable timber) physical and monetary stock accounts, and (2) protected area physical and (limited) monetary stock accounts. Protected area tourism surveys (visitor/enterprise surveys and willingness to pay surveys) have been designed to generate information for protected area monetary stock accounts.

COMMUNICATIONS STRATEGY

Communications is an important component of the implementation of WAVES in Madagascar. A consultant has been hired to prepare a detailed communications strategy.

NEXT STEPS

In the next few months, current data collection efforts will allow a first cut at mining physical stock accounts, water stock accounts and partial tourism accounts. Scoping studies will investigate the options for developing water flow accounts and full tourism accounts. On macroeconomic indicators, a road map will be developed to identify and construct the indicators to be monitored on an annual basis. A communication strategy to inform policy makers in the newly elected government about NCA will be deployed.

OUTREACH EFFORTS

The WAVES team participated in the project launch and first steering committee meeting of the ESPA-funded PAGE project on ecosystem services in eastern humid rain forests.

Madagascar-WAVES was presented at the follow-up meeting to the Gaborone Declaration for Sustainability in Africa held in Botswana in October 2013.


SUMMIT FOR SUSTAINABILITY IN AFRICA

REPUBLIC OF BOTSWANA

CONSERVATION INTERNATIONAL

THE GABORONE DECLARATION

We, the participants at the Summit for Sustainability in Africa, meeting from 24 to 25 May 2012 in Gaborone, Botswana,

REAFFIRM OUR COMMITMENT TO IMPLEMENT ALL CONVENTIONS AND DECLARATIONS THAT PROMOTE SUSTAINABLE DEVELOPMENT, IN PARTICULAR:

- **The African Convention on the Conservation of Nature and Natural Resources (1968);**
- **The Declaration of the United Nations Conference on the Human Environment (1972);**
- **The Rio Declaration on Environment and Development (1992), its principles and its programme of action also known as Agenda 21;**
- **The United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change and the United Nations Convention on Biological Diversity (1992);**
- **The United Nations Millennium Declaration and the Millennium Development Goals (2000);**
- **The Johannesburg Plan of Implementation (JPOI) of the World Summit on Sustainable Development (Johannesburg, 2002);**

Welcome the upcoming United Nations Conference on Sustainable Development "Rio+20" as an important opportunity to urgently reaffirm commitments from governments, private sector, civil society and community leaders to sustainable development that provides for the economic, social and environmental security of current and future generations, building upon the outcomes of this Summit for Sustainability in Africa;

A Filipino fisherman paddles along a mangrove-lined coast in the Philippines. Mangroves play a crucial role in reducing the impact of coastal erosion and inundation

PHILIPPINES

BACKGROUND

The Philippines is an archipelago of more than 7,000 islands in Southeast Asia and has a bounty of minerals, cropland, timber, and coastal and marine resources. These natural resources make up an estimated 36 percent of the nation's wealth. In recent years, increased investor confidence, accelerated economic activity, and a consistent growth in GDP has made the Philippines one of the fastest growing economies in Asia. Parallel to this growth, rapid urbanization, climate change, and nonjudicious use of natural resources pose risks to the country's progress and sustained economic prosperity.

The scientific and evidence-based information provided by WAVES will help the government develop policies in support of the Philippines' medium-term development plans and help effectively manage the often competing and overlapping claims on the country's natural resources.

The Philippines decided to implement macroeconomic indicators of sustainable development and the following accounts: mineral and mangroves accounts, and ecosystem accounts at two identified sites—Southern Palawan and the Laguna Lake Basin.

INSTITUTIONALIZATION

The WAVES program in the Philippines is led by the National Economic and Development Authority (NEDA), which provides the overall strategic direction through organizing and chairing the steering committee and providing leadership in the overall coordination and implementation of the project. With support from the country coordinator, NEDA leads the regular monitoring and reporting and coordinates the policy dialogue with the Cabinet, Climate Change Commission, Department of Finance, Department of Budget and Management, and key sector agencies.

The Philippines-WAVES Steering Committee (PWSC) met for the second time on January 30, 2014, for a status update and to discuss the next steps in setting up the recipient-executed trust fund (RETF) for the Philippine Statistics Authority (PSA) and in developing the ecosystem accounts. The draft communications strategy for the project was also presented.

PROGRESS

ECOSYSTEM ACCOUNTS

In August and November 2013, public consultations were held with the various stakeholders of the Laguna Lake Basin and Southern Palawan. The consultations were followed by training and planning workshops in early September with technical assistance provided by the WAVES Global Partnership, the Australian Bureau of Statistics (ABS), and members of academia. These workshops helped develop consensus among stakeholders on the policy issues the accounts would address, and identified the sequence of accounts. The free and prior informed consent (FPIC) of Indigenous Peoples (IP) communities present in the two pilot areas for ecosystem accounting is in process. Dedicated consultations were arranged with IP communities in November 2014, who gave their support to the project.

To take this work further, an ecosystem accounting training was held in Manila on February 10–14, 2014, for the technical working groups that will be developing ecosystem accounts for the two regions. The workshop was led by experts from the University of Wageningen in the Netherlands, ABS, and the Resources, Environmental and Economics Center for Studies (REECS). The participants were given a crash course in measurement and valuation of ecosystem services. This enabled them to design detailed plans for each of the pilot studies. The issues to be addressed in the Laguna Lake region are siltation and pollution of the lake. In Southern Palawan, the ecosystem account will help in developing a plan for handling conflicting land uses.

Preliminary work on compiling these accounts has begun: Land cover change matrixes were compiled and updated for Southern Palawan and the Laguna Lake Basin. A water supply and use table was compiled and updated for the Laguna Lake Basin.

MINERAL ACCOUNTS

Discussions on the preparation of the mineral accounts have started with PSA and the Mines and Geoscience Bureau (MGB) of the Department of Environment and Natural Resources (DENR). Data screening has already commenced. ABS also conducted a one-week training course on the System

of Environmental-Economic Accounting (SEEA), which included a separate, more focused session on the production of mineral accounts. Technical staff for PSA is being hired to construct the accounts.

COMMUNICATIONS PLAN

A communications plan identifying the main stakeholder groups both inside and outside the government has been prepared and is currently being finalized/reviewed by the different partner government agencies. WAVES is building on existing multistakeholder groups to effectively engage all relevant government agencies, NGOs, civil society organizations, academia, and representatives of the private sector. A first set of communications products has also been developed, including an information docket and press releases on major events. Information on all workshops and training is available on the WAVES website.

As the WAVES project progresses, part of the communications objective will be to analyze and identify points of convergence between WAVES with other World Bank projects, like Capturing Coral Reef and Related Ecosystem Services (CCRES), the Extractives Industries Transparency Initiative (EITI), and the Flood Master Plan.

> "IT IS EASY TO TAKE OUR NATURAL RESOURCES LIKE CLEAN AIR FOR GRANTED BECAUSE WE DO NOT YET KNOW HOW TO ACCOUNT FOR IT. WITH WAVES WE WILL HAVE A SCIENTIFIC BASIS FOR THE VALUATION OF OUR NATURAL RESOURCES THAT WILL HELP US PLAN FOR ITS JUDICIOUS USE."
>
> **EDWIN DOMINGO,** Director of the Department of Environment and Natural Resources Foreign Assisted Projects Office

ADDITIONAL DONOR SUPPORT

Additional donor support has been confirmed from the ABS (through funding from the Australian Agency for International Development [AusAID]), and the European Space Agency (ESA). ABS/AusAID will provide technical support and training, and the ESA will provide satellite imagery and analysis for the two ecosystem accounts. Collaboration with the CCRES project in Southern Palawan is being explored.

NEXT STEPS

Detailed work plans have been developed for the two ecosystem accounts. Both technical working groups are currently preparing data gap and availability assessments and are consolidating the necessary data to support the creation of the ecosystem accounts. This first data collection effort is expected to be completed by early May. The development of the ecosystem accounts will then begin, with preliminary results expected in the

OUTREACH EFFORTS

WORKSHOPS

- A delegation of government officials from NEDA and the National Statistical Coordination Board (NSCB) participated in the UNEP/UNESCAP/SANDEE workshop in Bangkok in October 2013.
- A videoconference was organized in November 2013 to discuss the first set of trial accounts with experts from the ABS and the WAVES team.
- A delegation of government officials from all the key government agencies (NEDA, DENR, Palawan Council for Sustainable Development, Laguna Lake Development Authority, NSCB, Office of the Presidential Advisor for Environmental Protection) participated in a training course on environmental accounting and follow-up specialist training conducted by ABS and the Australian National University in Canberra in early December 2013.
- A videoconference was organized in January 2014 to follow up on the development of the trial accounts with experts from ABS and the WAVES team.

STAKEHOLDER CONSULTATION

- Stakeholder consultations were held in Southern Palawan in August and November 2013, involving national government agencies, including the PCSD, representatives from the business sector, environmental NGOs, Indigenous Peoples, farmers, fishermen, and academia.
- Stakeholder consultations for the Laguna Lake Basin were done in August 2013, involving national and local government offices, population control agencies, water concessionaires, academia, and the fishing community. Additional outreach to the local government units as well as sectoral stakeholders is planned for March/April 2014.

Laguna Lake Development Authority Secretary Nereus Acosta shares the strategic plans for the development of the Laguna Lake and how ecosystem accounts will provide evidence for better decisions on management of the lake

second half of the calendar year. The ESA will also begin developing the earth observation products to support the compilation of the two accounts, which are expected to be available by the end of the calendar year.

For the mineral accounts, advance procurement for the technical staff is currently ongoing. Staff will be hired as soon as the grant agreement for the RETF is signed by the Ministry of Forestry, expected by early May. The technical working group is currently undertaking a data scoping exercise to determine gaps and potential quality concerns. Once completed, a detailed work plan will be developed.

COUNTRIES IN PREPARATION PHASE

GUATEMALA >>>

Guatemala has an extensive background in constructing natural capital accounts. Starting in 2006, the Rafael Landívar University initiated a public-private-academic partnership funded by the Dutch government to use the SEEA methodology to construct accounts for forests, water, energy and emissions, groundwater resources, fisheries, land and ecosystems, and public environmental expenditure. Findings from 2001–2006 were published in 2009, and Guatemalan researchers have now published a second edition that covers the flow accounts for the 2001–2010 period. The WAVES program will build on this work to ensure that national capital accounts are integrated into policy and planning.

PROGRESS

Three World Bank missions have been undertaken since the government of Guatemala signed the Expression of Interest for joining WAVES as a core implementing country in August 2013. A steering committee has been established and a national coordinator has been hired. The WAVES-Guatemala National Steering Committee is chaired by SEGEPLAN (Ministry of Planning) and includes the Ministry of Finance (MINFIN), the Ministry of

Stanislas Kamanzi, Minister of Natural Resources, Rwanda, interacts with the media following the first WAVES steering committee meeting in Kigali

Environment and Natural Resources (MARN), the Central Bank of Guatemala (BANGUAT), and the National Institute of Statistics (INE). The steering committee has met twice to refine the work plan for WAVES and identify steps that will be needed to institutionalize these accounts.

WAVES was launched at an official ceremony in March 2014 attended by key stakeholders, including Ekaterina Parrilla, Secretary of Planning; Michelle Martínez, Minister of Environment; and Ruben Narciso, Director of the National Institute of Statistics.

The Central Bank of Guatemala has agreed to assign accountants to work with an NCA expert to implement the WAVES work plan after it is finalized.

NEXT STEPS

Scoping study: This will determine entry points and key variables to consider for a WAVES implementation program in Guatemala.

Policy note and work plan: Work is ongoing to prepare the terms of reference to determine key policy questions, accounts to be developed, and other related activities related to the institutionalization process.

RWANDA >>>

According to initial estimates, natural capital in the form of crop and pastureland, as well as minerals and protected areas, contributes almost 40 percent of Rwanda's total wealth. Rwanda is one of the 10 signatories to the Gaborone Declaration and is strongly committed to implementing NCA. Several videoconferences were held with Rwanda's minister of natural resources and other government officials in 2013 to discuss how Rwanda could become a WAVES core implementing country. In October 2013, Rwanda joined WAVES as a core implementing country.

The Government of Rwanda will use NCA to inform the National Development Plan (EDPRS 2), which calls for faster growth, development of key sectors, and urbanization, and thus requires attention to natural resource contributions to the economy and trade-offs between sectors. To support sustained growth sectoral demands for water, energy, land, and raw materials will need to keep pace with projected rapid growth, while minimizing negative environmental impacts and unplanned resource depletion.

PROGRESS

Two World Bank missions to Rwanda helped identify possible policy entry points as well as familiarized

WAVES stakeholders with the WAVES process and goals. The national steering committee has been set up and has met twice to plan the process of implementation. The minister of natural resources, as chair of the steering committee has identified three senior officials who will serve as focal points and lead the process—the director general of the Rwanda Environment Management Authority (REMA), director general of the Rwanda Natural Resources Authority (RNRA), and director general for National Planning/Ministry of Finance and Economic Planning (MINECOFIN).

NEXT STEPS

Feasibility study and work plan: This will determine entry points and key variables to consider for a WAVES implementation program in Rwanda. Recruitment of local and international experts to develop this feasibility study and options for a work plan is under way.

INDONESIA >>>

More than 27 percent of Indonesia's GDP comes from natural resources. An effort has been made to get better information on the state of natural resources—in the 1990s, statistics were generated on the environment to be included in the national account by the BPS (Central Bureau of Statistics) and an Environmental Balance Sheet System was introduced for timber, energy, and minerals.

The Government of Indonesia is committed to implementing a green economy approach and has expressed an interest in answering the following policy questions on sustainable development: Are there metrics for measuring Indonesia's sustainable development? Is the growth resilient? Are the energy and mineral sectors sustainable drivers of growth? What are sensible sectoral greening strategies?

> "DEVELOPMENT IS A CROSS-CUTTING SECTOR AND WE NEED TO MAINSTREAM EFFECTIVE DECISION-MAKING PLANNING IN ALL SECTORS AND NOT IN ISOLATION. NCA IS A TOOL THAT CAN HELP US ACHIEVE THIS BALANCE ACROSS SECTORS AND VARIOUS DEVELOPMENT NEEDS."
>
> **STANISLAS KAMANZI,** Rwanda's minister of natural resources

Indonesia joined WAVES in 2013 with the expectation that a more systematic approach toward NCA can inform its medium-term development plan (RPJM).

PROGRESS

After a WAVES mission in September 2013, the Ministry of Planning (BAPPENAS) sent an Expression of Interest for joining the WAVES partnership as a core implementing country. The Ministry of Planning will be the lead agency, and a technical team comprising staff from the Ministry of Planning, Ministry of Finance, Central Statistical Agency, and Ministry of Environment has been established. The team met and identified several policy areas that can be prioritized to develop accounts.

In preparation for the program, several staff from the Ministry of Planning and the Bureau of Statistics attended an NCA workshop in Bangkok in October and the weeklong training course at Australian National University in December 2013.

NEXT STEPS

Steering committee meeting: Convening the first steering committee meeting to agree upon the scoping study and other activities of the preparation phase.

Scoping study: Commissioning a study to identify key policy entry points, data, and institutional and capacity-building issues to consider for a WAVES implementation program.

8. LOOKING AHEAD >>>

Over the past three years, implementation of NCA through WAVES has confirmed lessons learned from the experience with environmental accounting in developing countries over the past 25 years: One key lesson is that many developing countries need sustained country-level technical assistance combined with "communities of practice" for successful institutionalization. Another key lesson is that it needs to be driven and led by planning/development or finance agencies.

Success is achieved when NCA is consistently applied to inform decision making in national policy analyses, planning, and implementation and when NCA is embedded in national institutions that are staffed and resourced to produce accounts on a regular basis, complete with appropriate institutional and legal arrangements.

The expansion strategy of WAVES is based on two pillars of work to support institutionalization of NCA:

- Increasing the number of core implementing countries (CICs) from 8 to 15 or more, depending on the availability of funding.
- Developing regional communities of practice (CoPs to build capacity anchored in the region to implement and use NCA for decision making. As described below, the CoP strengthen the work in CIC, but also provide a mechanism to support participating countries and build a strong regional base for institutionalizing NCA in a large number of countries beyond the CICs.

Increasing Core Implementing Countries

Extensive, sustained, direct support for NCA to individual countries, led by a Ministry of Planning, Development, or Finance, is the cornerstone of the WAVES strategy. Providing this level of support in a critical mass of countries is a key element of achieving global adoption of NCA. Depending on additional budget, we plan to increase the number of core implementing countries from the current 8 to about 15 over the next 24 months.

WAVES began with 5 countries: Botswana, Colombia, Costa Rica, Madagascar, and the Philippines. WAVES' global engagement activities intensified around the Rio+20 Summit in 2012. The result was a global campaign for NCA, building on the Gaborone Heads of State Summit on African Sustainability in May 2012. This campaign, using the NCA communique signed in Gaborone, has now been signed by 69 countries, of which 39 are middle- and low-income countries. WAVES followed up a year later with a ministerial event on NCA at

the Spring Meetings of the World Bank-IMF in April 2013, which brought tougher 35 ministers and vice-ministers to reaffirm their commitment to NCA.

The WAVES secretariat has followed up an the demand expressed at the 2013 Spring Meetings by engaging directly with many governments about their "readiness" to implement NCA. Three countries were able to fast-track their readiness and have now joined the CICs: **Rwanda, Guatemala and Indonesia.** Based on their engagement with the WAVES secretariat over the past year, two other countries are poised to join the CICs in the next few months: **Morocco and Vietnam**. WAVES is actively engaged in discussions with a number of other countries, such as **Mozambique, Mongolia, and Bhutan**.

Developing Communities of Practice

Moving forward, the development of regional CoPs for NCA will be a key element of the WAVES Strategy for meeting the needs of all our 69 partner countries, complementing the intensive country-level work in the CICs. The CoPs include countries already doing NCA (both WAVES CICs and countries with other sources of funding) as well as those wanting to learn about NCA.

CoPs will strengthen the NCA programs in current CICs, and provide a longer-term solution to the challenge of institutionalizing NCA globally.

Regionally based CoPs are an important mechanism to support institutionalization of NCA in a large number of countries simultaneously by developing broad-based understanding and

> "IT IS STATING THE OBVIOUS TO SAY THAT DECISIONS WILL BE BETTER IF THE TRUE VALUE OF WHAT NATURE PROVIDES FOR FREE IS FACTORED IN. I HAVE ALWAYS LOVED THE EXAMPLE THAT IF BEES DECIDED NOT TO GO TO WORK FOR 12 MONTHS IT WOULD COST OUR ECONOMY MORE THAN £400 MILLION A YEAR.... TOGETHER WE NEED TO NAIL THE MYTH THAT PRESERVING AND ENHANCING NATURAL CAPITAL IS SOMEHOW INCOMPATIBLE WITH ECONOMIC GROWTH."
>
> **CAROLINE SPELMAN,** U.K. Conservative Member of Parliament

regionally based capacity to implement and use NCA. CoPs will provide peer learning, opportunities to exchange experiences, and report back on results by countries; a wide range of training services (webinars and other e-based learning, workshops, training materials, training of trainers, and so on); and knowledge management over a four- to five-year period.

Some of the countries that are more advanced with NCA could go on to become regional leaders and provide training to other countries.

CoPs would utilize existing regional institutions and networks and engage a broad range of stakeholders, including government officials responsible for policy decisions; technical professionals from government, academia, NGOs, and other organizations; and civil society.

WAVES will also consider developing CoPs along thematic or other lines. For example, the WAVES Policy and Technical Experts Committee (PTEC) constitutes a CoP for ecosystem accounting methodology, and there is great interest in developing a CoP for the thematic topic of forest accounting.

A key to the successful development of regional CoPs is engagement with regional partner organizations and networks as well as our strategic international partners: UNEP, UNDP (TEEB, Green Economy, Poverty Environment Initiative), and the UN Committee of Experts on Environmental Economic Accounting.

Conclusion

The WAVES steering committee has endorsed the expansion strategy based on the plan above. Successful implementation will depend on additional funding to the WAVES Multi-Donor Trust Fund. Initial estimates point toward nearly $40 million for implementing this strategy for the next four to five years.

9. FINANCIAL REPORT

SUMMARY OF FINANCING AND ALLOCATIONS

This section presents the financial status of the WAVES Multi-Donor Trust Fund (MDTF) as of March 27, 2014.

CONTRIBUTIONS

Total expected contribution for the WAVES MDTF is US$22 million from nine donors (EU, Denmark, France, Germany, Japan, the Netherlands, Norway, Switzerland, and the United Kingdom), of which US$12 million (about 55 percent) has been received to date (see Figure 10).

FIGURE 10. PLEDGE AND CONTRIBUTION SUMMARY

		Pledges		Cash Contribution		Outstanding Contribution	
DONOR	Currency	Amount in contribution currency	Amount in USD	Paid in contribution currency	Paid in USD (at receipt)	Unpaid in contribution currency	Unpaid in USD (at receipt)
United Kingdom Department for International Development (DFID)	GBP	1,902,424	3,055,966	1,368,282	2,173,058	534,142	882,909
Switzerland – Federal Department of Economic Affairs, Education and Research	USD	2,500,000	2,500,000	0.00	0.00	2,500,000	2,500,000
Norway Ministry of Foreign Affairs	NOK	20,000,000	3,373,727	12,500,000	2,132,950	7,500,000	1,240,777
Netherlands – Minister of Foreign Affairs	USD	2,857,142	2,857,142	1,451,000	1,451,000	1,406,142	1,406,142
Japan – Ministry of Finance	USD	2,996,667	2,996,667	1,586,667	1,586,667	1,410,000	1,410,000
Germany - Federal Ministry for Economic Cooperation and Development (BMZ)	EUR	832,000	1,083,930	832,000	1,083,930	0.00	0.00
France – Agence Française de Developpement	EUR	811,556	1,051,046	811,556	1,051,046	0.00	0.00
EU – Commission of the European Communities	EUR	2,500,000	3,405,864	1,250,000	1,680,750	1,250,000	1,725,114
Denmark – Royal Ministry of Foreign Affairs	DKK	10,000,000	1,832,391	5,000,000	908,074	5,000,000	924,317
TOTAL in USD			**22,156,733**		**12,067,475**		**10,089,258**

Overall Data of WAVES MDTF

The total received (paid) contribution is US$12,067,475. The remaining balance of the WAVES fund is US$735,162 (see figure 11).

FIGURE 11. FINANCIAL SUMMARY

RECEIPT	Current US$
Paid contribution	12,067,475
Disbursements(-)	4,595,326
Commitments(-)	7,063,383
Fund Balance	735,162

Commitments of WAVES MDTF Program Contributions as of March 27, 2014

The WAVES MDTF of US$22.2 million pledged amount has been set up to fund activities at both the global and country levels. Total MDTF has been committed between the global- and country-level work programs. Greater portions of funds are planned to be allocated to country-specific activities.

For the first two years, program disbursements were greater at the global level. This is to enable the creation of the knowledge products of the WAVES program, which underpin and inform all of the work being done in WAVES countries (see figures 12 and 13).

The **global work program** includes the following pillars:

- Preliminary country-level engagement, regional workshops, and annual partnership forums
- Preliminary country communications work, global communications strategy
- Engagement with the wider NCA community, sponsoring high-level NCA events
- Development and policy applications for ecosystem accounting (PTEC)

Currently, the **country-level work program** includes eight countries: **Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines, and Rwanda.**

FIGURE 12. CURRENT COMMITMENTS IN US$

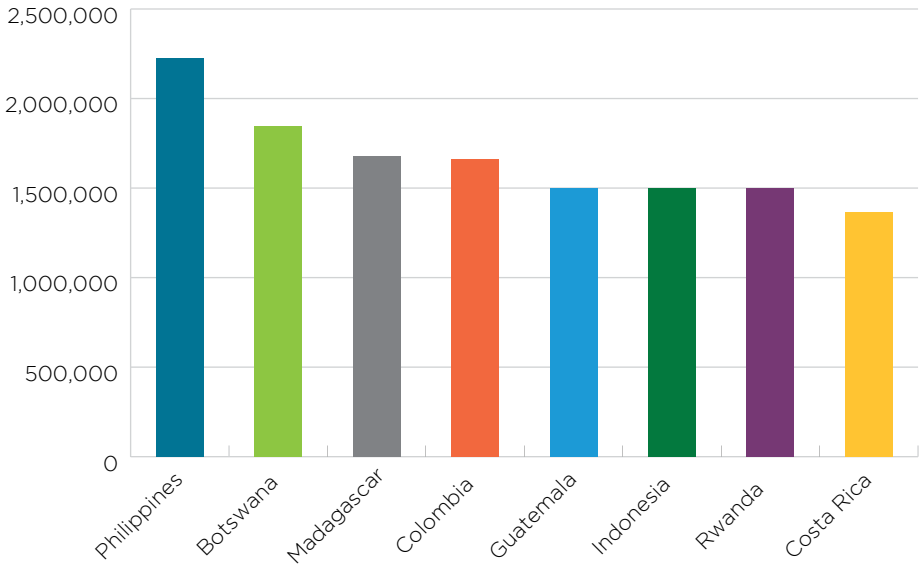
Currently Committed (total)	11,619,814
Global work	7,169,307
Country work	3,950,000
Program management and administration (charged on an actual basis)	500,814

FIGURE 13. DISBURSEMENT IN US$

Disbursement (total)	4,595,326
Global work	2,841,149
Country work	1,341,261
Program management and administration	412,916

Planned Country Allocation:
Funding requests to support country-specific activities for eight WAVES countries (Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines, and Rwanda) were agreed upon, totaling US$13,275,689 for eight country projects' duration (see figure 14). Currently, US$3.95 million out of the total planned/agreed funding (US$13.2 million) has been allocated to country programs (except Rwanda).

FIGURE 14. PLANNED COUNTRY ALLOCATIONS IN US$



ANNEX 1.
PARTICIPATION IN THE WAVES GLOBAL PARTNERSHIP

Participation in the WAVES Global Partnership

Wealth Accounting and the Valuation of Ecosystem Services (WAVES) is a global partnership that aims to promote sustainable development by mainstreaming natural capital in development planning and national economic accounts. WAVES has as its primary audience Ministries of Development, Planning, and Finance, where decision makers, including mainstream economists, may not be fully aware of the role of natural capital to underpin long-term, inclusive economic growth. To make this relationship clear and promote integration of natural capital in national policy analysis, planning, and implementation, natural capital should be incorporated in national economic accounts, which is a primary tool for economists. The System of Environmental-Economic Accounting (SEEA) is the framework for implementing natural capital accounting.

WAVES is now working in eight developing countries and plans to expand further to meet the growing demand for national capital accounting (NCA). The United Nations Conference on Sustainable Development (Rio+20) in June 2012 marked a watershed in worldwide interest in NCA. The World Bank invited the public and private sectors to join forces and take collective action in support of NCA; the response was overwhelming: 69 countries have now indicated their support for implementing NCA to the World Bank. This commitment was reconfirmed by 35 ministers and vice-ministers at a high-level meeting at the Spring Meetings of the World Bank-IMF in April 2013.

Support for the World Bank's Natural Capital Accounting Initiative is open to all countries and civil society organizations interested in finding out more about NCA and the application of NCA tools to policy decisions impacting on natural resource management, the environment, and development.

Major Categories of Engagement in the WAVES Global Partnership

Core Implementing Countries

Countries that receive substantial technical support to implement NCA funded by the WAVES Multi-Donor Trust Fund (MDTF) with resources of US$500,000 to $2 million. Currently, the WAVES core implementing partners include Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines, and Rwanda. These are countries where there is a reasonable expectation that NCA will be (1) successfully institutionalized (that is, staffed and resourced to produce accounts on a regular basis, complete with appropriate institutional and legal arrangements) and (2) applied in national policy analyses to inform decision making.

Donor Partners

Organizations that contribute financially to the WAVES MDTF. Currently, this includes Denmark, the European Commission, France, Germany, Japan, the Netherlands, Norway, Switzerland, and the United Kingdom. A contribution in kind has been received from Australia, which is funding AUD 1 million of technical assistance from the Australian Bureau of Statistics to countries in East Asia.

Participating Partners

- International organizations, including key partners serving on the steering committee and other international organizations that may have an interest and be able to contribute to the promotion of NCA
- Civil society representatives, including foundations, NGOs, academic and research institutions, and local governments that may have an interest and be able to contribute to the promotion of NCA.

- Countries that have signed the Communiqué on Natural Capital Accounting, including any developed and developing countries that are implementing NCA without major support from the WAVES MDTF (including countries undertaking NCA through technical assistance and World Bank policy lending, for instance development policy loans). The World Bank and its WAVES partners will encourage countries to join the WAVES Partnership and encourage them to take action to build the capacity to implement NCA regardless of their becoming a core implementing partner.

Participating partner countries will have the opportunity to benefit from the following activities:

- Regional training workshops to explain NCA, how it can be used to support decision making, and the SEEA methodology, as well as follow-up technical workshops on specific areas like forest or water accounting
- Training materials for NCA including webinars, online resources and e-learning courses
- Membership in a global community of practice and regional communities of practice to share experiences, report results, learn from each other, and receive training on specialized topics. This includes both a virtual knowledge-sharing platform as well as face-to-face interaction.
- Assistance in identifying resources for additional technical and policy support through WAVES Partnership, or programs of partners

Criteria for Selection as a Core Implementing Country In the Waves Partnership

These criteria are intended to ensure that CICs are able to implement natural capital accounts in a way that ensures full institutionalization (in both policy use and compilation of accounts) and thus sustainability of the efforts. All current WAVES core implementing partner countries meet the following criteria.

Essential Criteria

1) Demonstrated commitment to undertake natural capital accounting, including, critically, (a) high-level support among all relevant ministries and agencies, (b) a lead agency that has broad coordination power over a significant number of natural resources sectors, preferably a ministry of finance, planning or development, or ministry of environment and natural resources that oversees the majority of natural resource sectors, agrees to champion NCA. It is envisaged that participation in regional workshops and discussions with World Bank country teams and the WAVES secretariat will be helpful to countries seeking to meet this criterion.
2) Identified opportunities where natural capital accounting can contribute to policy decisions and program commitments, such as an upcoming national development plan or sector strategy. The NCA tool should be distinguished from the many other tools for environmental assessment and valuation or cost-benefit analysis that may be appropriate to address different kinds of policy issues.
3) Reasonable quality of the System of National Accounts. National economic accounts provide basis for building natural capital accounts. Minimum requirements include (a) a base year for national economic accounts not more than 10 years old, and (b) GDP measured by both production (value-added) and expenditure (including consumption so that gross, net, and genuine savings can be measured), and (c) GDP in both current and constant prices. It should be noted that NCA need not compete with other statistical strengthening activities and can be designed to contribute to strengthening national economic accounts.

4) A high-level political commitment to promote the cooperation and sharing of information among ministries, policy makers, and researchers, thus allowing, for example, targeted analysis on the valuation of natural capital to strengthen the contribution of NCA to decision making, and, as appropriate, with the public.

Desirable Criteria

5) Regional leadership. The potential for a country to provide regional leadership in NCA and eventually provide "south-south" training opportunities, as well as their ability to mobilize support for NCA in intergovernmental forums and processes at the regional and global level.
6) Selection will also consider the synergistic opportunities for cooperation with related programs of strategic WAVES partners such as UN agencies, regional development banks, and donor country programs.

Selection of Core Implementing Partners

The expansion of the WAVES program and addition of new core implementing partners will be contingent upon available resources from the WAVES MDTF and the capacity of the WAVES secretariat and its partners, especially within the World Bank Country and Regional Offices, to support and effectively manage new programs.

Selection of new countries among those that meet the essential criteria will take into account the candidate countries' need for externally funded-technical assistance and give priority to lower-income countries that meet the above criteria. For those lower-income countries that do not currently meet the essential criteria described above, special effort will be made to engage them and to identify resources that may be available to build their basic statistical infrastructure, data collection, analytic capacity, and institutional capacity for policy implementation, so they may eventually qualify as core implementing countries. They can also join a regional community of practice to obtain further support.

The ultimate selection remains with the World Bank secretariat, which is responsible for overall management of the WAVES Global Partnership.

Participating Countries and Communities of Practice

The development of regional communities of practice for natural capital accounting is a key element of the WAVES Strategy for meeting the needs of all our 69 partner countries. A CoP aims to promote NCA by building the necessary capacity and peer learning through periodic meetings and workshops, knowledge management, and training services over a four- to five-year process. It would utilize existing regional institutions and networks and include both government officials responsible for policy decisions and technical professionals from government, academic, and other civil society organizations. The regional CoP will bring together core implementing countries, low-income countries that may not meet the criteria for core implementing countries, and middle-income countries who have the capacity to fund NCA themselves but would benefit from participating in a CoP and may eventually be able to provide training.

ANNEX 2.
MONITORING AND EVALUATION REPORT

Monitoring and Evaluation Report

The WAVES secretariat and the steering committee agreed to a monitoring and evaluation (M&E) framework in July 2013. The M&E framework has four components, corresponding to the four project development objectives (PDOs) of WAVES:

- PDO 1: Implement natural capital accounting (NCA) at national or subnational level in several developing and developed countries.
- PDO 2: Incorporate natural capital accounting in policy analysis and development planning.
- PDO 3: Develop standardized guidelines for ecosystem accounting for global implementation.
- PDO 4: Promote adoption of natural capital accounting beyond the WAVES partner countries.

The first two PDOs are reported at both the global and country levels. The global-level results are included here in the annual report. Country-level results will be provided as part of a stand-alone policy note for each country.

The global results are reported only for the first five core implementing countries. The three new countries have begun their preparation phase and are operating on a different time frame. The preparation phase includes development of detailed work plans agreed by each of the countries' steering committees. M&E with targets and indicators will be developed from the agreed work plan.

One difference between the M&E framework for the five WAVES countries agreed in July 2013 and the one provided here is an extension of the end date for the countries. The reason for this varies by country and will be discussed below. It should be noted that the extended time frame does not require additional funding.

PDO 1: Implementing Natural Capital Accounting

With regards to institutionalization (PDO 1.a), we are ahead of our targets, with three countries (Botswana, Colombia, the Philippines) agreeing to institutionalization of NCA by this year instead of the original target of one country. We expect Costa Rica and Madagascar to agree to institutionalization under their new governments.

All countries have completed the milestones for the preparation phase (PDO 1.1). WAVES countries have exceeded targets for constructing asset accounts, flow accounts, and macroeconomic indicators of sustainability (PDO 1.2, PDO 1.3, and PDO 1.5). Construction of ecosystem accounts (PDO 1.4) has started more slowly than originally planned, but next year we expect to start work in three countries, as per our target, and have results for at least one of the pilot sites in Botswana, Colombia, and the Philippines. One of the main reasons for proposing an additional year for the five WAVES countries is to complete the ecosystem accounting element of the work program.

The slow beginning for ecosystem accounting is partly a result of both the lack of experience and guidelines for ecosystem accounting and the need for extensive stakeholder consultation, as, for example, in the Philippines. In Botswana, the original work plan envisioned ecosystem accounting starting right away, but the president of Botswana asked for water accounts to be prioritized and all resources were focused on meeting that need, delaying the construction of other accounts. Moreover, more consultation and discussion is needed in Botswana about the scope and links of land, ecosystems, and tourism accounts, including institutionalization. Ecosystem accounting will begin next year, after a thorough scoping-out study and training. In Costa

Rica, the work program focuses on getting the SEEA Central Framework accounts for water and forests in place before the ecosystem accounts. Colombia is starting ecosystem accounting with three pilot watershed studies, and only after it gains experience will it attempt larger-scale ecosystem accounting for one of the five major river basins. Madagascar's ecosystem accounting will be discussed with the new government later this year. The question of scaling up from pilot studies to regional or national level is critical, and this is planned for the last year of the work on ecosystem accounting, now proposed for 2016–17.

Regarding development of capacity for compiling accounts (PDO 1.6), there are very strong training and capacity-building programs in each country. In addition, the institutional basis for compilation of accounts, in terms of staff commitments, institutional responsibilities, and technical working groups, have all been established.

PDO 2: Incorporate NCA in Policy Analysis and Development Planning

With PDO 2, WAVES countries are also meeting or exceeding their targets. In terms of outcome indicators (PDO 2.a), Botswana has played an important regional role in promoting NCA, with strong support from the president as well as the Ministry of Mineral, Energy and Water Resources. There is commitment from the Ministry of Finance and Development Planning to mainstream NCA as a tool for economic growth in the next national development plan, and NCA has been recognized as an important tool for resources management across key ministries and agencies evidenced by its inclusion in key policies and management plans. In the Philippines, the mineral accounts have been cited as a critical tool for mining regulation, and NCA has been included as a tool in the revised Philippines Development Report. In Colombia, water and ecosystem accounting has been recognized as an important tool in the environmental management plans (CONPES) that cover every watershed. The use of NCA to inform policy as well as World Bank dialogue with countries such as Madagascar and Botswana is expected to increase in the coming years.

The intermediate indicators, PDO 2.1 and PDO 2.2, are critical to provide the technical background and communicate results to policy makers in order to achieve PDO 2.a. WAVES countries have started providing these reports and policy briefs with the development of in-country communications plans and staff (with a major role played by IIED, as described in the annual report). Finally, WAVES will only succeed with in-country capacity to use the accounts for policy analysis. In-country capacity is being developed in several ways: first, most of the work is being carried out by national staff with technical support and training from experts (domestic and international), so there is a large component of "learning by doing." In addition, there is formal training through seminars, workshops, and training courses, offered, for example, by the Australian National University and possibly the University of Botswana. Learning from peers through regional and international workshops is also critical, and the development of regional communities of practice will be important in achieving this.

PDO 3: Develop Standardized Guidelines for Ecosystem Accounting for Global Implementation

The work on developing guidelines for implementing ecosystem accounting is proceeding according to plan. The Policy and Technical Experts Committee has had successful workshops and annual meetings, making progress on methodological issues as well as providing valuable links to other organizations working on valuing ecosystem services and ecosystem accounting. WAVES has been able to leverage work being done by Conservation International, Wageningen University, Stanford University, WWF, and the Nature Conservancy (TNC), as well as Bank-funded work in related areas. All ongoing projects are proceeding well. To accomplish the targets for coming years, we will continue to engage with other partners, such as UNCEEA, UNSD, UNEP, SANDEE, and CATIE. We are currently drafting an application for additional funding from SESYNC (a U.S. National Science Foundation Center of Excellence to promote policy use of science) to move the methodology work forward. There is high demand for the planned guidelines and training material in the WAVES core partner countries. The outputs finalized this spring have already been disseminated and used, for example, in training in the Philippines, workshops in Latin American and the Caribbean, and prospective participating countries like Turkey.

We are also planning collaborative work with our strategic partners, UNDP, UNEP (Green Economy, TEEB, Poverty Environment Initiative), and UNSD, as described in the main text of the annual report. This work includes development of training materials, organizing joint regional training workshops, and joint work in countries where we overlap to make best use of the strengths of each partner.

PDO 4: Promote Adoption of NCA beyond the WAVES Partner Countries

WAVES has been highly successful in promoting NCA globally. As described in the annual report, 69 countries have now signed on to NCA, of which 39 are developing countries. WAVES has proposed an expansion strategy to meet that demand and has already added three new core implementing countries: Guatemala, Indonesia, and Rwanda. Depending on funding, other countries will be added. We have brought some of the 69 countries that are doing their own work on NCA to the WAVES partnership meeting as well as to regional workshops to share experiences. We are also working with partners who can support NCA, such as GIZ, which is supporting NCA in Peru and Namibia. We also collaborate with partners such as UNDP, UNEP, UNSD, and other regional organizations to provide regional training workshops and outreach. The WAVES website and newsletter have been very popular; in the coming year, the website will be complemented by a knowledge platform and new social media platforms will be launched.

Global Results-Based Monitoring Matrix – PDO 1

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
PDO 1. Implement natural capital accounting in partner developing and developed countries							
Outcome indicators:							
a. Number of core implementing countries with a commitment to institutionalize natural capital accounting based on lessons learned from the WAVES program	**Colombia** (Stats Office, 6 staff)	Target: 1 country (Colombia)	Target: 1 country (Colombia) Achieved: 1	Target: 1 country Achieved: 3 **Botswana**–Department of Water Affairs unit for water accounts with 3 staff **Colombia**–6 staff in Stats Office **Philippines**–4 staff in National Statistical Coordination Board	Original target: 2 countries New target: 3+ **Madagascar, Costa Rica****–TBD under new government	Target: 5 countries **Botswana**–Staff commitments for additional accounts in respective government agencies (minerals, finance, energy) **Madagascar, Costa Rica****–TBD under new government **Philippines**–Staff commitments for additional accounts in other government agencies	Target: 5 countries
Intermediate outcomes indicators:							
1.1 Number of core implementing countries that have completed the milestones for the WAVES preparation phase*	None	Target: 2 countries Achieved: 2 **Botswana** **Madagascar**	Target: 5 countries Achieved: 4 **Philippines** **Colombia**	Target: 5 countries Achieved: All 5 countries **Costa Rica**	All achieved	All achieved	All achieved

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	**Base line June 2011**	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.2 Number of core implementing countries with asset accounts for selected natural assets	**Colombia**–Subsoil asset accounts	Target: 1	Target: 1	Target: 2 countries (countries complete at least 1 asset account) Achieved: **All 5 countries** started; 4 countries complete at least 1 account **Botswana**–Surface water stock accounts, subsoil asset accounts (phase 1) **Colombia**–Preliminary national forest accounts, water asset accounts for first pilot site **Costa Rica**–Preliminary national forest accounts **Madagascar**–Water stock by river basin	Original Target: 3 countries New target: 5 (countries complete at least 1 asset account) **Botswana**–Subsoil assets (phase 2), preliminary groundwater water stock accounts **Colombia**–National and regional forest accounts, water asset accounts for second and third pilot sites **Costa Rica**–National forest accounts **Madagascar**–Subsoil assets for large mines, forest accounts for non-protected areas only **Philippines**–Subsoil assets, preliminary mangroves accounts	Target: 5 countries Additional accounts: **Botswana**–Land accounts for ecosystem pilot sites, subsoil assets updated, total water stock accounts by region **Colombia**–Updated accounts, water asset accounts for 1 major river basin **Costa Rica**–Updates accounts,** TBD with new government **Madagascar**–Complete forest accounts (protected areas plus non-protected areas), mineral accounts for small-scale mines **Philippines**–Mangrove accounts, subsoil assets updated, land accounts for ecosystem pilots	Target: 5 countries **All countries**–Update existing accounts Additional accounts: **Botswana, Philippines**–Land and ecosystem pilot accounts scaled up to regional/national level **Colombia**–TBD

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.3 Number of core implementing countries with flow accounts for selected natural resources	**Colombia**–National water, energy accounts	Target: 1 (Colombia)	Target: 2 countries Achieved: 2 **Botswana**–Preliminary water accounts **Colombia**–Updated accounts	Target: 3 countries Achieved: All countries start; 4 countries have at least 1 account **Botswana**–Time series of national water accounts **Colombia**–Water accounts at national level and for 1 pilot watershed **Costa Rica**–Preliminary national water flow and forest product accounts **Philippines**–Water accounts for Laguna Lake	Target: 5 countries **Botswana**–Water accounts (update national accounts, accounts by water management area, new sectoral accounts), phase 1 energy accounts (electricity) **Costa Rica**–National water flow accounts and forest product accounts,** TBD with new government **Colombia**–Updated water, forest accounts **Madagascar**–Water flow accounts for 1 river basin **Philippines**–Mangrove products, water accounts for second pilot site	Target: 5 countries **Botswana**–Monetary accounts for water, accounts for recycled water, energy accounts for major companies **Madagascar**–National water accounts by river basin **Costa Rica**–Updated water, forest accounts; monetary water accounts,** TBD with new government **Colombia**–Updated water, forest accounts **Philippines**–Update water accounts, mangrove products	Target: 5 countries Countries update existing flow accounts

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.4 Number of core implementing countries with experimental ecosystem accounts	None	Target: 0 countries	Target: 0 countries	Target: 2 countries Achieved: Work started in 2 countries **Colombia**–Preliminary results for 1 of 3 pilot watershed sites **Philippines**–Work started in 2 sites	Target: 3 countries **Botswana**–Results for 1 of 4 pilots **Colombia**–Preliminary results of second and third pilot watershed pilot sites **Philippines**–Preliminary results for 2 pilots	Target: 5 countries **Botswana**: 3 additional pilot sites **Colombia**–Final report on 3 pilot watershed sites **Madagascar****–Begin forest ecosystem accounts, TBD **Philippines–**Phase 2 results for pilot sites	Target: 5 countries **Botswana**–Scale up pilot site ecosystem accounts to national level **Colombia**–Scale up pilot watershed accounts to regional/national level TBD **Philippines**–Scale up pilot site ecosystem accounts to regional/national level **Madagascar****–Preliminary forest ecosystem accounts, TBD
1.5 Number of countries with macroeconomic indicators based on NCA	None	Target: 0 countries	Target: 0 countries	Target: 1 country Achieved: **Botswana**–Preliminary estimates	Original target: 2 countries New target: 4 **Botswana, Costa Rica, Madagascar, Philippines**	Original target: 3 countries New target: 5 **Botswana,** **Colombia, Costa Rica,** **Madagascar, Philippines**	Original target: 3 countries New Target: 5 Update macro indicators

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
1.6 Number of countries with capacity for maintaining NCA (evidenced by dedicated government staff for NCA and regular reporting mechanism for production of natural capital accounts)	**Colombia** Statistics Office has unit for NCA, 6 staff	Target: 1 (Colombia)	Target: 1 (Colombia)	Target: 1 country Achieved: **Botswana**–Water accounts unit in Department of Water Affairs created (with 3 staff trained); technical working groups (TWGs) for all accounts established and receiving training **Colombia**–Inter-agency agreement on data sharing, staff from Stats Office and technical committee for accounts receiving training **Costa Rica** (2 staff in Central Bank for NCA), TWGs for water, forest accounts established and receiving training **Madagascar**–TWGs established and trained for all accounts. **Philippines**–Unit in NCSB created with 4 staff; TWGs established for ecosystem accounts; 4 NSCB staff received training at Australian National University course; PTEC training course on ecosystem accounting, and other workshops	Original target: 3 countries New target: 5 Training continues through in-country, regional, and other training workshops, and by working with international experts on the accounts	Target: 5 countries Training continues in all countries through in-country, regional, and other training workshops, and by working with international experts on the accounts	Target: 5 countries Training continues in all countries through in-country, regional, and other training workshops, and by working with international experts on the accounts

National Steering Committee (NSC) established, feasibility study approved by NSC and WAVES Secretariat, stakeholder consultation on draft work plan, work plan approved by NSC and WAVES Secretariat.

** Madagascar and Costa Rica have new governments in 2014 and the work plan will be discussed with the new government to develop them further.

Global Results-Based Monitoring Matrix – PDO 2

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
PDO 2. Incorporate natural capital accounting in policy analysis and development planning in core implementing countries							
Outcome indicators:							
a. Number of core implementing countries in which NCA informs policy dialogue on growth, environment and poverty reduction, evidenced by citing NCA or using NCA indicators and data in development plans, sector strategies and plans, executive orders, legislative documents, and the broader policy analysis literature (may include World Bank ESW, AAA, and project formulation documents)	None	Target: 0 countries **Botswana**–Government hosts Heads of State Summit on African Sustainability, resulting in Gaborone Declaration to implement NCA signed by 10 countries	Target: 2 countries Achieved: **Philippines**–Executive order on mining for mineral accounts **Botswana**–Mid-term review of National Development Plan 10 calls for NCA in NDP11; President's Botswana Economic Advisory Council includes progress on NCA in briefing pack for its biannual meetings	Target: 2 countries Achieved: **Botswana**–President's State of the Nation address mentions NCA, national water policy, IWRM policy call for NCA; government policy brief on water management calls for water accounts as management tool; Botswana hosts follow-up to 2012 Gaborone summit to establish secretariat for NCA **Colombia–**CONPES (environmental management plan for first pilot watershed) calls for NCA as management tool **Costa Rica**–Legislation calling for NCA proposed to Congress **Philippines–**NCA included in revised Philippines Development Report as management tool	Target: 5 countries **Botswana:** MFDP commits to mainstreaming NCA in draft of NDP11; NCA informs World Bank CPF **Colombia–**CONPES (environmental management plan for second and third pilot watersheds) call for NCA as management tool; other TBD with new government **Costa Rica***–Follow-up on proposed legislation with the new government **Madagascar***–NCA informs PRSP and World Bank ISN; other TBD with new government **Philippines–**Water pricing discussions for Laguna Lake based on preliminary results from ecosystem accounts	Target: 5 countries **Botswana:** NCA as a management tool for NDP11; ecosystem accounts inform management plan for Chobe (one of the ecosystem sites); water accounts/ inform dialogue on sharing water from international rivers **Colombia–**NCA informs Forest Strategic Plan, and policy instruments for river basin management **Costa Rica***–TBD with new government **Madagascar***–World Bank CPF uses NCA; other TBD with new government **Philippines**–Mining policy informed by mineral accounts and ecosystem pilot in southern Palawan	Target: 5 countries **Botswana:** Ecosystem accounts inform national Land Management and Tourism Strategy; NCA used to monitor implementation of NDP11 **Costa Rica***–TBD under new government **Madagascar***–TBD under new government **Philippines**–Coastal development policy informed by mangrove accounts

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
Intermediate outcomes indicators:							
2.1 Number of core implementing countries with policy notes and analytical work based on NCA	None	Target: 0 countries	Target: 2 countries Achieved: **Botswana**–DWA water policy brief and first technical report **Madagascar**–Two pilot studies on fisheries and the value of ecosystem services in the CAZ watershed	Target: 4 countries Achieved: **All countries** have at least 1 policy note, analytical report **Botswana**–Updated technical reports and new notes on water, first technical report on minerals and macro, first technical report on energy **Colombia**–Technical report and policy note on national forest accounts, and on water accounts for first pilot watershed **Costa Rica**–First draft technical report on national forest and water accounts **Madagascar**–First macro indicators policy note **Philippines**–First ecosystem accounts policy note	Target: 5 countries **Botswana**–Technical reports and policy notes on sustainability, macro indicators and minerals; policy notes on water management; first technical report and policy note on ecosystem accounting **Colombia**–Policy note and tech report on second and third watershed pilots **Costa Rica***–Policy notes and technical reports on forest and water accounts, TBD **Madagascar***–Macro indicators, water efficiency policy notes and technical reports **Philippines**–Macro indicators minerals; second note on ecosystem accounts; first note on mangroves	Target: 5 countries **Botswana**–Technical reports, policy notes, and briefs on sustainability, macro indicators, and minerals; water management; ecosystem accounting, tourism and land management; note on scaling up ecosystem accounting to rest of country **Colombia**–Policy note and tech report on watershed accounts and method for scaling up to regional/national level; second-phase policy notes on forest accounts **Costa Rica***–TBD with new government **Madagascar***–Mining and forest sector policy notes, additional studies TBD with new government **Philippines**–Final technical report and policy notes on 2 ecosystem pilot sites; note on scaling up ecosystem accounting to the rest of the country	Target: 5 countries **Botswana**–Technical reports, policy notes on ecosystem accounts for the country **Colombia**–Technical report, policy notes on watershed accounts for the country **Philippines**–Technical reports, policy notes on ecosystem accounts for the country **Madagascar, Costa Rica***–TBD with new government

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
2.2 Number of countries with capacity for using NCA in policy dialogue (evidenced by government staff trained in using NCA)	None	Target: 1 country **Botswana**–Policy-makers workshop for 35+ people **Philippines**–2 training workshops for policy makers, people from user agencies (government, academic, CSOs)	Target: 1 country **Botswana**–5 staff attend water account training workshop; 3 internal training seminars on uses of water accounts at DWA **Colombia**–NCA training workshop for 50+ people **Costa Rica**–SEEA training workshop for 20+ people	Target: 1 country **Botswana**–2 workshops on NCA for 40+ participants; 3 training seminars on water accounts at DWA; seminar on energy accounts; initial seminars held for all other TWGs **Colombia–**3 staff attended UNSD-WB training in SEEA (Brazil); hosted regional ecosystem account training 30+ people **Costa Rica**–3 staff attended UNSD-WB training in SEEA (Brazil), 2 attended Colombia workshop; 2-day training by international expert for 15+ policy makers **Madagascar**–Training of 20 staff on policy use of NCA by international expert **Philippines–**2-day training workshop on ecosystem accounts for 110+ people; 1-week training course in ecosystem accounts for 35+ staff; 4 staff sent to regional SEEA training course in Bangkok; 6 staff sent to NCA course in Australia	Target: 3 countries All countries–Regional and national training workshops, TBD **Botswana**–2-week short course at University of Botswana on water accounting, 1-week training course on ecosystem accounts, 3 seminars on mineral accounts and macro indicators, training on energy accounts **Colombia, Costa Rica**–Forest accounting workshop for 30+ people, Water accounting workshop for 30+ people, 1-week ecosystem accounting workshop for 30+ people **Madagascar**–Continued training on uses of NCA by international experts **Philippines**–4 staff attend NCA course in Australia; 1-week training course on ecosystem accounting	Target: 5 countries All countries: Regional and national training workshops, TBD **Botswana**–2-week training course at University of Botswana on water and other accounts **Philippines**–4 staff attend NCA course in Australia	Target: 5 countries All countries: Regional and national training workshops, support from international experts

*Costa Rica and Madagascar have new governments in 2014 and discussion will take place in 2014–15 to identify the new development priorities and how NCA can contribute.

Global Results-Based Monitoring Matrix – PDO 3

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017
PDO 3. Develop standardized guidelines for ecosystem accounting for global implementation							
Outcome indicators:							
a. International guidelines are developed on physical and monetary accounts for ecosystems in the SEEA Experimental Ecosystem Accounts (Vol. 2)	None	Input provided on valuation to Draft SEEA EEA; financial support provided to editing of SEEA EEA	SEEA EEA approved by UN Statistical Commission as best-practice guidelines	Date for next revision not set	Date for next revision not set	Date for next revision not set	Date for next revision not set
Intermediate outcomes indicators:							
3.1 Ecosystem Services Accounting (ESA) concepts, data sources, and methods tested	Not started	Target: None Policy and Technical Experts Committee (PTEC) set up and the first annual meeting held to develop work plan	Target: None Achieved: Cooperation agreed with CI, Wageningen University, and WWF/TNC/ Stanford Univ./ Minnesota Univ. 3 ecosystem accounting pilots studies initiated (Peru, Indonesia, India)	Target: Testing to begin Achieved: 3 pilot studies ongoing Discussions started for collaborative testing with strategic partners (UNDP, UNEP, UNSD)	Target: 3 pilot study reports finalized 3 workshops on scaling up and valuation to be held Testing methodology in CICs work: Philippines, Botswana Pilot studies in collaboration with UNDP, UNEP, and UNSD	Target: Policy notes and technical reports Reports on methodology tests in the Philippines and Botswana finalized Scoping studies to test scaling up from pilot sites to national level in Botswana, Colombia, and the Philippines	Proposed target: Report on concepts, data sources, and methods taking into account WAVES country results and results for other initiatives

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017
3.2 Guidance notes for using different methodologies for Ecosystem Services Accounting (ESA) developed	None	Target: 0 Setting up experts Committee Achieved: Policy and Technical Experts Committee (PTEC) formed; first annual meeting held	Target: 0 Achieved: First workshop on designing pilots held where methodology issues identified Research agenda established; 2 guidance notes commissioned for piloting ecosystem accounts	Target: 2 guidance notes Achieved: 3 guidance notes finalized: 1. Designing pilots on ESA (overview) 2. Scoping studies for pilots 3. Biophysical modeling and mapping Commissioned: 4. Mapping and valuing coastal and marine ES 5. Valuation of regulating ES 6. Biophysical modeling of watershed ES	Original target: 4 guidance notes New target: 6 (1-6 completed) New notes commissioned: 7. Integrating ES measures into accounts	Original target: 6 guidance notes New target: 7 Report on issues and recommendations for ecosystem accounting	Proposed target: Report on recommen-dations taking into account country results and results from other initiatives
3.3 Policy examples of natural capital accounting compiled from existing literature	Not started	Target: None	Target: None Survey of user/ uses of accounts conducted Outreach to other organizations for policy examples started	Target: Initial report on policy applications Achieved: Overview report finalized	New target: 5 policy briefs published Overview of uses of accounts in economic models	New Target: 5 Additional policy briefs published	Proposed target TBD

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017
3.4 Training material developed	Not started	Not started	Initial work started with country and regional workshops	Target: 1 Forest accounting sourcebook drafted and reviewed at 3-day forest accounting workshop 1-week training course on ecosystem accounting piloted in the Philippines	Target: 1. Water accounting 2. Ecosystem course tested in other countries in collaboration with strategic partners (UNDP, UNEP, and UNSD) 3. Pilot training on valuation for ecosystem accounting 4. Pilot training on biophysical and GIS modeling for ESA	Target: Web-based trainings launched Training developed from guidance notes on coastal and marine ecosystems	Proposed target: Web-based trainings refined, delivered to 100+ users

Global Results-Based Monitoring Matrix – PDO 4

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
PDO 4. Promote the adoption of natural capital accounting beyond the WAVES core implementing countries							
Outcome Indicators:							
a. Number of countries beyond the original 5 WAVES core implementing countries undertaking natural capital accounting, where WAVES has played a significant role in implementation (for example, countries having received direct technical support from WAVES secretariat)	None	Target: 0	Target: 0	Target: 2 Achieved: 3 (Guatemala, Indonesia, Rwanda)	Original target: 3 New target: 5 (candidates include Vietnam and Morocco, depending on funding)	Original target: 4 New target: 6–8, depending on funding	Proposed target: 7–10, depending on funding
b. Number of countries beyond the original 5 WAVES core implementing countries undertaking natural capital accounting, where WAVES has played a supporting role in implementation (for example, through WAVES secretariat participation in workshops)	None	Target: 0	Target: 0	Target: 3 Achieved: Brazil, Chile, Mexico	Target: 4	Target: 5	Proposed target: 6
Intermediate Outcomes Indicators:							
4.1 Number of countries beyond the original WAVES core implementing countries participating in knowledge-sharing activities (annual partners meetings, international workshops, south-south exchanges)	None	3*	Target: 30**	Target: 40 Achieved: 60+***	Target: 50	Target: 60	Proposed target: 80

OBJECTIVES & OUTCOME (RESULTS) INDICATORS	Base line June 2011	Prep year June 2012	Year 1 June 2013	Year 2 June 2014	Year 3 June 2015	Year 4 June 2016	Year 5 June 2017 (proposed)
4.2 Number of WAVES website hits	No website	Website is launched	Target: 20% increase Achieved: >20% (35,725)	Target: 20% increase Achieved: 52% (74,740)	Target: 20% increase	Target: 20% increase	Target: 20% increase
4.3 Number of WAVES newsletter views	No Newsletter	No Newsletter	Target: launch website Achieved: 300 subscribers	Target: 20% increment Achieved: 1,100 subscribers	Target: 20% increment	Target: 20% increment	Target: 20% increment
4.4 Number of social media followers	No social Media	No social Media	No social media	Target: Launch Achieved: Plans to launch last quarter of 2014	Original target: 20% increment New target: Launch	Target: 20% increment	Target: 20% increment

Note: See monitoring and evaluation framework for definitions of results.

* China, Peru, and Kenya participate in WAVES annual workshop.

**Partnership meeting included Peru, Kenya, and India; MENA workshop included Egypt, Jordan, Lebanon, Morocco, Tunisia, and Turkey; VCs/missions to Gabon, Ghana, Vietnam; Ministerial Dialogue on Natural Capital Accounting at Spring Meetings of WB/IMF April 18, 2013, included 38 countries.

***Workshops in **AFR:** Botswana, Comoros, Congo, Egypt, Ethiopia, Gabon, Ghana, Ivory Coast, Kenya, Liberia, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, South Africa, Tanzania, Uganda, Zimbabwe; **EAP:** Indonesia, Thailand, Samoa, Vietnam; **LCR:** Belize, Bahamas, Barbados, Brazil, Dominica, Ecuador, Jamaica, Mexico, Panama, Peru, St. Lucia, Uruguay, Venezuela; **MNA:** Egypt, Jordan, Lebanon, Morocco, Tunisia, Turkey. (For a full list of engagement, see the annual report).

WEALTH ACCOUNTING AND THE VALUATION OF ECOSYSTEM SERVICES

WAVES ANNUAL REPORT 2014

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