

# Global Program on Sustainability

ANNUAL REPORT FY22







## Donors



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



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# Abbreviations

AEZ	Agro-ecological Zones
AFR	Africa
API	Application Programming Interface
ARIES	Artificial Intelligence for Environment & Sustainability
ASA	Advisory Services and Analytics
BAU	Business –as usual
BELA	Biodiversity, Ecosystem, and Landscape Assessment
BMZ	Germany's Federal Ministry for Economic Cooperation and Development-Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ)
CALM	Climate Action Through Landscape Management Program for Results
CBA	Cost Benefit Analysis
CBAM	Carbon Border Adjustment Mechanism
CBS	Central Bureau of Statistics
CC	Country Climate
CDDR	Country Climate and Development Reports
CE	Circular Economy
CEA	Country Environmental Analysis
CEM	Country Economic Memorandum
CERO	Climate and Environmental Risks and Opportunities
CGE	Computable General Equilibrium
CGIAR	Consortium of International Agricultural Research Centers
CHF	Swiss Franc currency
CIC	Core Implementing Country
CMU	Country Management Unit
COP	Conference of the Parties
COVID	COVID-19-disease caused by the SARS-CoV2 virus
CPF	Country Partnership Frameworks
CREM	Climate Resilience and Environmental Management
CRGE	Climate-Resilient Green Economy
CWON	Changing Wealth of Nations
DEFRA	UK Department for Environment, Food & Rural Affairs
DFID	UK Department for International Development
DG	Development Goals
DT	DT Global (International Development Firm)
EFR	Environmental Fiscal Reforms
EGD	European Green Deal
EM	Emerging Markets
EMIA	EMIA Survey
ENB	Environment, Natural Resources and Blue Economy Global Practice
EPA	Environmental Protection Agency
EPR	Extended Producer Responsibility
ERGD	Ethiopia Resilient and Green Development Programmatic ASA
ERPA	Emission Reduction Purchase Agreement
ES	Ecosystem Services
ESAT	Ecosystem Services Assessment Toolkit
ESF	Environmental and Social Framework
ESG	Environment, Social and Governance Data
ESIF	Ethiopia Sustainable Land Management Investment Framework
EU	European Union
EUR	Euro currency
FCI	Finance, Competitiveness and Innovation Global Practice
FGN	Federal Government of Nigeria
FRTC	Forest Research and Training Centre
FSAP	Financial Sector Assessment Program
FY	WBG Fiscal year (July 1st - June 31st)
GBF	Global Biodiversity Framework
GBP	UK currency
GCC	Gulf Cooperation Council
GDAP	Green Deal Action Plan
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GP	Global Practice
GPIF	Government Pension Investment Fund
GPS	Global Program on Sustainability
GRID	Green, Resilient, Inclusive Development
GSS	Ghana Statistical Service
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GP	Global Practice
GPIF	Government Pension Investment Fund
GPS	Global Program on Sustainability
GRID	Green, Resilient, Inclusive Development
GSS	Ghana Statistical Service
GTAP	Global Trade Analysis Project
HDD	Hidden Dimensions of Poverty

IBRD	International Bank for Reconstruction and Development
IFC	International Finance Corporation
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IR	Implementation Report
ISSB	International Sustainability Standards Board
IT	Information Technology
IUCN	International Union for Conservation of Nature
JIT	Just-In-Time Technical Assistance
KP	Knowledge Product
KPI	Key Performance Indicator
LLL	Lao Landscapes and Livelihoods project
MDTF	Multi-Donor Trust Funds
MEL	Monitoring, Evaluation and Learning system
MESTI	Ministry of Environment, Science, Technology and Innovation
MFMOD	World Bank Macro-Fiscal Model
MLNR	Ministry of Lands and Natural Resources
MOT	Ministry of Trade
MOTF	Ministry of Treasury and Finance
MSG	Medium Size Grants
MTI	Macroeconomics Trade and Investment Global Practice
NBSAP	National Biodiversity Strategies and Action Plans
NCA	Natural Capital Accounting
NCCAP	National Climate Change Action Plan
NCES	Natural Capital and Ecosystem Services
NDC	Nationally Determined Contributions
NDP	National Development Planning
NDPC	National Development Planning Commission
NGFS	Network of Central Banks and Supervisors for Greening the Financial System
NGO	Non-Governmental Organization
NNRFC	National Natural Resources Financial Commission
OECD	Organization for Economic Cooperation and Development
OKR	World Bank Open Knowledge Repository
OPCS	Operations Policy and Country Services
PADAP	Projet d'agriculture durable par une approche paysage (Madagascar)
PASA	Programmatic Analytical and Advisory Services
PEIA	Program Evaluation and Impact Assessment
PMQA	Pillar 3/2.1 Management and Quality Assurance
PPP	Public Private Partnerships
PPS	Plastic Policy Simulator
RAS	Reimbursable Advisory Services
REDD	Reduce Emissions from Deforestation and Forest Degradation
RLLP	Resilient Landscapes and Livelihoods Project
SAP	Systems, Applications and Products
SBO	Strategy and Budget Office
SC	Steering Committee
SCD	Systematic Country Diagnostic
SDG	Sustainable Development Goal
SECO	Switzerland's State Secretariat for Economic Affairs
SEEA	System of Environmental-Economic Accounting
SLB	Sustainability Linked Bonds
SNA	System of National Accounts
TA	Technical Assistance
TBC	To be confirmed
TNFD	Taskforce on Nature-related Financial Disclosures
TRE	World Bank Treasury
TSA	Tourism Satellite Accounts
TTA	Target Technical Assistance
TULIP	Türkiye Resilient Landscape Integration Project
TWG	Technical Working Group
UK	United Kingdom
UN	United Nations
UNECA	United Nations Economic Commission for Africa
UNEP	United Nations Environment Program
UNSD	United Nations Statistics Division
US	United States
USD	US currency
VES	Valuation of Ecosystem Services
WACA	West Africa Coastal Areas Management program
WAHA	Tunisia Sustainable Oasis Landscape Management
WAVES	Wealth Accounting and the Valuation of Ecosystem Services
WB	World Bank
WBG	World Bank Group
WRI	World Resources Institute
WWF	World Wildlife Fund





# Executive summary

The Global Program on Sustainability (GPS) is the World Bank's umbrella program on natural capital accounting (NCA) and the economics of sustainability, and includes the activities supported by the WAVES Plus Trust Fund (Wealth Accounting and the Valuation of Ecosystem Services), which completed its activities at the end of 2022. This document reports on results accomplished during Fiscal Year 2022 (FY22, from July 1, 2021, to June 30, 2022), by both the WAVES Plus and the GPS Multi-Donor Trust Funds (MDTFs). In addition to results achieved during FY22, the report also summarizes relevant events and activities that have taken place during the second semester of 2022.

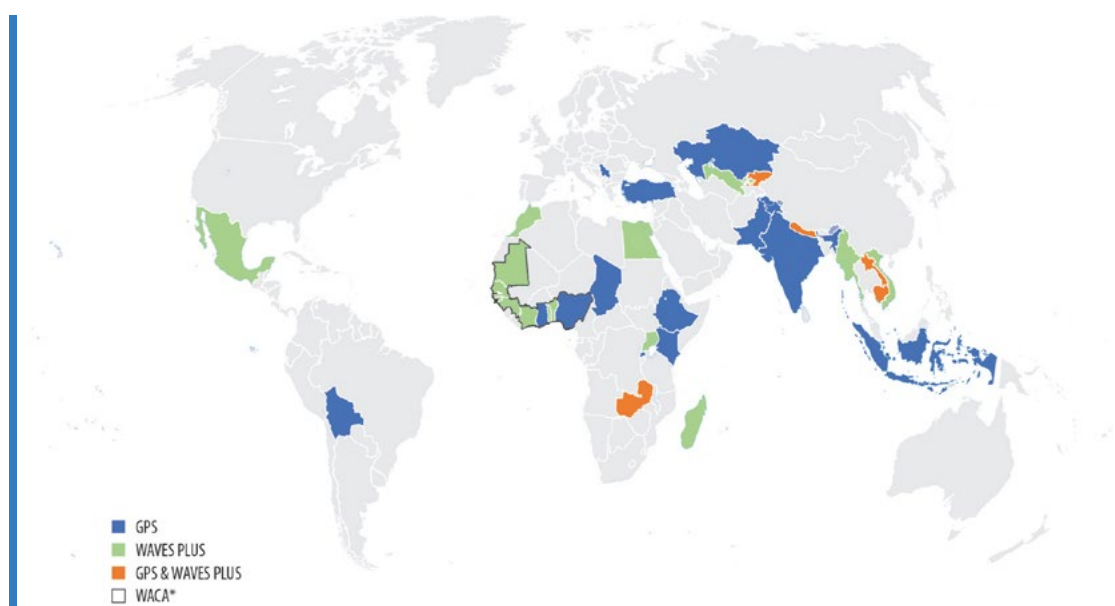
## Overall summary of progress

By the end of FY22, both programs have made considerable progress in achieving expected results, as measured by the average of the individual indicators' progress coefficients (PCs). For each indicator, the PC is the share of the

corresponding target achieved by the end of FY22. WAVES Plus, which closed in December of 2022, had achieved an overall rate of progress of 98%. A final assessment of the results achieved will be provided in the final report of WAVES Plus, currently under preparation. GPS has an average progress coefficient of 61% overall, which is in line with expectations considering that the program is about mid-way through its implementation.

The two programs combined have engaged in 28 countries (Figure 1), informing a variety of policy and investment decisions. They have delivered a wide range of analytical products, which have been viewed or downloaded over half a million times and which rank high against comparator knowledge products in terms of online attention. GPS is also making steady progress on sustainable finance, in particular generating new insights on how to mobilize scaled-up financing for nature.

**Figure 1. Scope of country support by GPS and WAVES Plus**



Note: WACA refers to the West Africa Coastal Areas Management Program which supports the strengthening of resilience for coastal communities and assets in 17 western African countries.

## Pillar 1: Global data and information

GPS provides global data and analytical tools on natural capital and ecosystem services, to spur the international debate on the economics of sustainability and to provide entry points for country level engagement. During FY22, the program has delivered outputs across two major strands of analytical work: the “road to Kunming”, and the latest installment in the Changing Wealth of Nations report series - CWON.

In addition, progress has been made on the Environmental Fiscal Reform work, on the design of the global data platform, on the integration of nature into macro-economic modeling and the Bank’s analytics on climate, and on training to boost country capacity to measure and value ecosystem services.

### The Road to Kunming

To support the development of the Kunming-Montreal Global Biodiversity Framework (adopted at the 15th meeting of the Conference of the Parties to the convention on Biodiversity in December 2022) GPS completed an analytical and engagement activity, called “The Road to Kunming”. The objective was to articulate a new, evidence-based narrative on the key role played by nature in development, and on policies required to sustain that role. The work resulted in the production of three reports (in order of publication): (1) [Mobilizing Private Finance for Nature](#), (2) [The Economic Case for Nature](#), (3) [Unlocking Nature-Smart Development: An Approach Paper on Biodiversity and Ecosystem Services](#). These three reports broke new ground on the economics of nature, identified options to mobilize finance for biodiversity, and defined priority areas for the World Bank Group’s engagement in supporting nature-smart development. In addition, the reports provided the basis for the three policy briefs on Nature and Development that were launched at COP15.

The reports were acknowledged as very relevant and insightful by top CBD negotiators and attracted attention

in important policy fora (and elicited requests for follow-up work), including the Coalition of Finance Ministers for Climate Action, and the Network for Greening the Financial System (NGFS).

### The Changing Wealth of Nations (CWON)

The new edition of the Changing Wealth of Nations report series (CWON 2021) provides the most comprehensive and accurate database of wealth across a broad portfolio of assets (natural, human and produced capital), calculated for 146 countries for the years 1995 to 2018 in market exchange rates in accordance with rigorous international standards (System of National Accounts – SNA; and System of Environmental-Economic Accounting – SEEA). The report includes a number of innovative features in terms of the scope of the assets analyzed, valuation techniques, estimates of the impacts of COVID-19 on human capital; and various applications to policy analysis, such as asset portfolio management under risk and uncertainty. The report was picked up in several media stories (including WEF, Devex and others) and elicited considerable interest in the context of important processes for revisions of economic statistics. Specifically, in the context of the 2025 revision of the UN System of National Accounts (SNA), the CWON team was asked to contribute to the guidance note on renewable energy as an economic asset, which will be later adopted by the SNA committee.

The Bank team also started preparation of the next version of the report, which will provide a step change in scope and approach. On the data front, all core CWON accounts will be updated and reported in both market-exchange rates (MERs) and purchasing power parities (PPPs). The coverage and methodologies to value selected assets will be improved, with a focus on renewable natural capital. A scoping study will be conducted to assess the extent to which water could be added to CWON.



On the analytical front, the new report will enhance the understanding of the role comprehensive wealth, especially natural capital, plays in ensuring growth, sustainability, and resilience to climate shocks and stressors and how it will be affected by the transition to low-carbon energy systems. The report will also include foundational theoretical and empirical analysis to explore how limited substitutability (between and within assets classes, and across different levels of aggregation) could be introduced into economic models -- and ultimately into the computations of comprehensive wealth -- to help inform policy analysis on sustainability.

#### **Progress on other aspects of Pillar 1 work include:**

- Conceptualization of a data platform, intended to be a one-stop shop for data produced with GPS support. The platform will make various datasets produced under GPS more accessible to policy makers and a general audience, including the CWON database and underlying spatial data, Adjusted Net Savings and the Little Green Data Book, among others.
- Provision of data and tools to integrate nature into Country Climate and Development Reports (CCDRs), the World Bank Group's new core diagnostic report (which aims to assist countries in holistically addressing their climate and development agendas). The combined effect of this methodological effort, with country-level support to individual CCDRs under Pillar 2, has been to integrate nature into CCDRs in countries such as Indonesia, Pakistan, and Rwanda, with more countries expected to follow suit in FY23 (India, Kenya and Ethiopia).
- Inception of analytical work to integrate ecosystem services into the World Bank's standard macroeconomic models that inform the Bank's core diagnostic and engagement documents, underpinning policy dialogue as well as operational and financial engagement.

- Delivery of a pilot training to apply ecosystem services modeling and valuation to landscape projects and programs. This training, carried out in Zambia, will form the basis for extending the training in coming years to at least three other countries, and for exploring the potential for scaling it further through synergies with the Africa Community of Practice on Natural Capital (discussed below).

## **Pillar 2: Country level support**

By the end of FY22, the combined WAVES Plus and GPS programs were engaged in 28 countries (or sub-regions) with 40 grants, including eight larger grants for Core Implementing Countries (CICs), and 32 smaller Targeted Technical Assistance grants (TTAs). Considerable progress has been made in all the key results areas of the two programs (Table 1). Sixteen countries have achieved results on production of data and/or analysis on natural capital and ecosystem services, with a total of 23 products delivered for the two programs combined. Similarly, 11 countries have made progress on using data and analysis from 21 products to inform policy processes and 20 countries have used data and analysis on natural capital and ecosystem services to inform 25 projects worth close to \$3.5 billion.

**Table 1. Summary of results achieved by WAVES and GPS**

Result area	WAVES Plus	GPS	Total (a)
<b>Production of data and/or analysis (b)</b>			
Nr of countries	15	8	<b>23</b>
Nr of products	12	11	<b>23</b>
<b>Policy uptake of data and/or analysis (c)</b>			
Nr of countries	4	7	<b>11</b>
Nr of products	7	14	<b>21</b>
<b>Use of data and/or analysis in project design / implementation (d)</b>			
Nr of countries	13	7	<b>20</b>
Nr of projects	15	10	<b>25</b>
Project funding (US\$ billion)	1.4	2.09	<b>3.49</b>

Notes: From (a) to (d) see Table 6 in the main text of the report.

## WAVES Plus

Work in the “Core Implementing Countries” supported by WAVES Plus is complete. Thanks to the program, Egypt, Morocco, Uganda and Zambia have made important progress to better measure and value their natural capital, and use that information for decision making. Examples include Egypt’s use of solid waste accounts to optimize the design of facilities for waste sorting and for evaluating cost recovery options for solid waste management. In Morocco, fisheries accounts have provided underpinning to a large World Bank program for results on the blue economy. In Uganda, WAVES Plus work (including the land and water accounts) has informed the 3rd National Development Plan and the World Bank project “Investing in Forests and Protected Areas for Climate-Smart Development “. Finally, in Zambia, work on natural capital accounts has been used to inform the Eighth National Development Plan and the World Bank project “Transforming Landscapes for Resilience and Development”; and has prompted the decision to include funding for further work on accounts in the 2021 National Budget.

The implementation of the smaller WAVES Plus grants for the eleven Targeted Technical Assistance countries or regions is very close to completion. The focus

areas included forests and landscape management (e.g., Cambodia, Kyrgyz Republic, Lao PDR, Madagascar, Nepal, Uzbekistan), and ecosystem services in coastal areas (Myanmar, Vietnam, and the West Africa Coastal Areas program). While not intended (by design) to result in full-blown natural capital accounts, TTAs have been able to provide evidence and analytical insights on the extent and value of natural assets (in twelve countries), inform policy dialogue (in Nepal) and investment decisions (in ten projects worth \$0.6 billion). In some cases (e.g., Lao, Cambodia, Kyrgyz Republic), they have induced countries to seek follow-up support from GPS to scale-up or deepen the work.

## GPS

At the end of 2021, the GPS steering committee endorsed the proposal to support, with grants of up to \$1 million per country, six Core Implementing Countries: Ethiopia, Ghana, Nepal, Nigeria, Tunisia and Türkiye. In FY22, the Bank team completed detailed scoping of the work in Ethiopia, Ghana, Nepal, and Türkiye, based on consultation with Governments and other country-stakeholders. Implementation is now fully underway in these countries.

In Ghana and Ethiopia, GPS support includes accounts on land and ecosystem



services to help develop Payments for Ecosystem Services schemes, and prioritize ecosystem restoration areas to inform the implementation of several World Bank projects. In Nepal, GPS is supporting data work on forest extent and conditions, and on forest related income and livelihoods. This will inform the implementation of World Bank financing (including carbon markets transactions), as well as incentivizing sustainable management with the reform of forest-related fiscal transfers to local levels of government.

In Türkiye, data work on natural capital and ecosystem services will underpin analytics to inform the National Circular Economy Strategy and the Green Deal Action Plan; and will inform the implementation of a landscape project in the Bolaman river basin.

Scoping work for Nigeria and Tunisia has started but has not yet been finalized. The general elections imminent in both countries warranted completing the process in a final round of consultations with the new governments, which are expected to take office in early 2023. Should agreement not be reached with either of the two new governments by the Spring of 2023, the corresponding resources will be repurposed in full or in part.

To support the implementation of the CIC work program, the World Bank has initiated a partnership with the United Nations Statistical Division (UNSD), whereby UNSD would take the lead in strengthening countries' capacity to generate natural capital accounts compliant with the SEEA standards. The World Bank would lead the dialogue with the government on the use of the accounts for analytical work and policy applications. Work is currently underway to formalize the partnership.

On the TTA front, by the end of FY22 there were a total of 18 TTA grants in 17 countries, including nine medium size grants (MSGs) and nine just-in-time (JIT) small grants. In eight countries, data or analysis on natural capital has already informed ten projects worth over \$2 billion, and 15 policy or policy

engagement documents. In several other countries (e.g., India, Kyrgyz Republic, Uganda), work is underway to achieve further results, including informing projects worth close to \$0.6 billion, and seven policy or policy engagement documents.

The experience of countries like Zambia and Lao PDR illustrates the importance of complementing initial support from WAVES Plus with GPS resources in low- and lower middle-income countries. This is key to ensure that a critical mass of capacity is generated for mainstreaming sustainability into the development process, especially in terms of data and timely, policy-relevant analysis on natural capital to inform decision making on policy and investments.

As part of a broader effort on the mobilization of finance for nature and climate action, the TTA window has also supported FY22 work on financing options analysis in Jordan and Kenya. Delivery of the final reports on these two pilot countries is expected in FY23.

At the regional level, [The Africa Regional Community of Practice](#) (CoP) complements country engagement on natural capital accounting (NCA) and approaches pursued by the program. The CoP supports training, exchange events, and other activities to reach out and facilitate additional countries towards "readiness" for future GPS engagement. Started in 2019 with funding from both WAVES Plus and GPS, the CoP brings together 72 participants from 18 African countries as well as regional and international agencies working on NCA. During FY22, the CoP continued making progress on strengthening capacity and facilitating knowledge sharing, including through webinars, online training attended by over 60 participants from 11 countries, and issuance of two instalments of the CoP newsletter. It is expected that GPS support to the CoP will continue until FY24 and will focus, in the remainder of the implementation period, on optimizing synergies with other GPS-supported activities (in particular, training and the program-wide seminar series).

### Pillar 3: Sustainable finance

During the course of FY22, the Pillar 3 program continued to contribute to global thought leadership on sustainable finance through its research and advisory work. In particular, the Pillar 3 team helped to advance the issuance of sovereign sustainability-linked bonds (SLBs), including through the publication of the report, [‘Striking the Right Note: Key Performance Indicators for Sovereign Sustainability-Linked Bonds.’](#) This report was used by Chile to design and issue the world’s first sovereign SLB. The Pillar 3 team supported a sovereign in Africa to develop their SLB KPI framework. Additionally, the team began ongoing modeling work to measure ambition of sovereign SLB KPIs in response to interest from financial institutions working on instrument design.

The team published another report targeting the integration of sustainability criteria into sovereign bond markets, [‘Sovereign Climate and Nature Reporting: Proposal for a Risks and Opportunities Disclosure Framework.’](#) This publication led to the International Public Sector Accounting Standards Board (IPSASB) taking up the report’s invitation to develop guidance for sovereign climate and nature reporting. IPSASB published a consultation paper, [Advancing Public Sector Sustainability Reporting](#), and received significant support from its stakeholders to develop public sector sustainability reporting guidance. The IFRS Foundation and the Global Reporting Initiative have agreed to support IPSASB in this work. This work will build on the work of the International Sustainability Standards Board (ISSB), to which the Pillar 3 team has also provided input. The Pillar 3 team further supported clients to progress on ESG and sustainability reporting (including in Cambodia, Thailand and Sub-Saharan Africa).

The Pillar 3 team published work supporting the integration of sustainability in credit ratings, including the report, [‘Credit Worthy - ESG factors and sovereign credit ratings.’](#) The team has ongoing engagement with credit

rating agencies (CRAs) on the integration of sustainability into ratings, including on the ingrained income bias (highlighted in a 2021 Pillar 3 report) and wealth accounting (drawing on CWON). These aspects are being further integrated into the methodologies of the CRAs.

Nature-related risks were a significant topic for Pillar 3 in FY22. The team launched the report, [‘An Exploration of Nature-Related Financial Risks in Malaysia,’](#) together with Bank Negara Malaysia, at a virtual event attended by nearly 1,000 people. Additionally, the team contributed to the report, [‘An Overview of Nature-Related Risks and Potential Policy Actions for Ministries of Finance: Bending The Curve of Nature Loss,’](#) for the Coalition of Finance Ministers for Climate Action. This report helped to elevate nature on the agenda of the Coalition, including by helping to drive the Coalition decision to participate to the 15th Conference of Parties (COP15) for the UN Convention on Biological Diversity. The report was also cited by several country negotiators and in policies developed by some ministries of finance. The Pillar 3 team is also providing ongoing support for the Network for Greening the Financial System (NGFS) nature-related risks work, the launch of the NGFS Nature-Related Risks Taskforce and has been supporting discussions between the Coalition and NGFS on how the two groups can coordinate on the nature agenda.

Finally, the Pillar 3 team continues to provide input to the IMF/World Bank Financial Sector Assessment Program (FSAP) on assessing climate and nature-related risks and opportunities, including contributing to ongoing innovative nature finance components of the Costa Rican FSAP. As in previous years, the Pillar 3 team was very active in sharing the findings from GPS work. Members of the team gave over 20 presentations in various fora. Members also published blogs, contributed quotes to articles, participated in a podcast, and actively engaged in social media to promote GPS work.



## Cross-cutting work

### Policy forum on natural capital

After a year of absence due to the COVID-19 pandemic, in FY22 work was resumed on the Global Policy Forum on Natural Capital for Better Decision Making, the program's annual signature event. This included the delivery, in September 2021, of the fifth edition of the forum as well as the preparation of the sixth forum.

The fifth installment in the series focused on [Greening the Recovery](#), and was delivered for the first time in an on-line format. The forum engaged over 330 participants from the NCA community and those working on green recovery policies to discuss the data needs for green recovery policies and how NCA can meet those needs to guide green recovery efforts and institutional reforms. A [background paper](#) was published before the Forum, and [proceedings](#) were posted online.

For the 2022 edition it was decided, based on internal and external consultations (including with GPS donors), to focus on financing for nature as a way to take stock of progress made on the topic, provide insights for the 15th meeting of the Conference of the Parties (COP15) of the Convention on Biological Diversity, and identify priority areas for future work. The forum was held in November of 2022.

## Knowledge management and communications

During this reporting period, building on past efforts to store and make relevant Knowledge Products (KPs) accessible on the WAVES web site, the team has started to develop a tool to organize information on the KP produced by WAVES Plus and GPS, including data on attention generated online. The first results of this work (Table 2.) suggest that the 31 products (out of the 89 inventoried so far) stored in the World Bank's Open Knowledge Repository (OKR) have been downloaded or viewed over half a million times.

On learning, the GPS Seminar Series was instituted to share the latest knowledge on how policy makers and the financial sector can integrate environmental sustainability considerations into decision making. A first event on Mexico was held in FY22, with a pipeline of monthly seminars planned for FY23.

In addition, out of further subset of 20 reports for which the Altmetric online attention score is available, 13 rank in the top 20% of the 270,000 comparator publications in the database, with 7 ranking in the top 5% and 3 in the top 1% (Table 3.).

**Table 2. Number of documents supported by WAVES Plus and GPS and related metrics of attention**

Product Group/ Pillar	Nr of products	Total OKR downloads	Total OKR views	Total Views and Downloads
<b>A. No OKR data available</b>	<b>58</b>			
<b>B. OKR Data available</b>	<b>31</b>	<b>246,152</b>	<b>310,452</b>	<b>556,604</b>
Pillar 1	7	215,859	264,598	480,457
Pillar 2	12	12,342	25,534	37,876
Pillar 3	12	17,951	20,320	38,271
<b>Total</b>	<b>89</b>	<b>246,152</b>	<b>310,452</b>	<b>556,604</b>

**Table 3. Number of selected publications supported by WAVES Plus and GPS by percentile class of the Altmetric attention score**

Percentile class of Altmetric score	Cumulative number of GPS/WAVES reports
Top 1%	3
Top 5%	7
Top 10%	9
Top 20%	13
Top 49%	15
<b>All reports</b>	<b>20</b>

Note: The data refer to distribution of the attention score across a subset of 270,000 research outputs in the Altmetric database tagged with the 38 Field of Research code (Economics).

On learning, the GPS Seminar Series was instituted to share the latest knowledge on how policy makers and the financial sector can integrate environmental sustainability considerations into decision making. A first event on Mexico was held in FY22, with a pipeline of monthly seminars planned for FY23.

### Monitoring and Evaluation (M&E)

During this reporting period several activities have been carried out on the M&E front. The GPS Program Evaluation and Impact Assessment (PEIA) has been launched. The final scoping for the exercise across four phases has been completed (inception, baseline setting, mid-term evaluation and final evaluation). A consulting team has been hired to carry out the evaluation, and an inception workshop with the GPS donors has been delivered.

Procedures and tools for the collection of monitoring data have been strengthened resulting in more streamlined reporting and improved learning. These include information for progress on country level work and tracking training and outreach events.

Finally, work has begun to update the original GPS M&E plan (which was endorsed by the donor in spring of 2021).

The revisions are intended to improve some indicators based on the first years of implementation experience, to address some donors' requests for additional indicators, and to reflect insights emerging from the ongoing PEIA. It is expected that a new draft of the plan will be completed for discussion with the donors in the spring of 2023.

### Looking ahead

While the work supported by WAVES Plus is virtually all completed, GPS has a pipeline of activities underway that is expected, in FY23 and beyond, to contribute further to achieving the programs' objectives. In Pillar 1, this includes the delivery of knowledge products on environmental fiscal reforms and on wealth accounting under the next CWON. In Pillar 2, progress is expected on the use of data and analysis on natural capital to inform more projects and policy processes. This is likely to materialize more rapidly in the TTA countries (which have started work earlier), but progressively in the CIC countries, too.

In terms of the broader context, the year ahead is likely to present both challenges and opportunities for the continuation (and possible expansion) of the program. On challenges, implementation may be affected by external global threats such as those related to pandemic-related issues (like new COVID variants), or further developments from the war in Ukraine and new spikes in energy or food prices. These risks appear to be manageable at this time but, should anything change, the World Bank will inform the GPS donors as appropriate.

On the opportunity side, the outcome of COP15 opens further space for GPS to add value. Possibilities exist for issues such as devising cost-effective country level options to contribute to the new global biodiversity targets in terms of nature protection and ecosystem restoration and identifying innovative solutions to mobilize -- domestically and internationally -- the financing required for achieving those targets.





# A

PILLAR 1:

Global  
information on  
sustainability



# Introduction

Pillar 1 of GPS provides data and analysis at the global level to measure and value environmental sustainability. The pillar has two main components. The first focuses on measuring sustainability through the production of cutting-edge data and analytical products like the “Road to Kunming” work and The Changing Wealth of Nations (see below). The second component, on mainstreaming sustainability, uses tools and methods, guidance notes, or training sessions, to increase the uptake of natural capital within decision-making.

## Component 1: Measuring Sustainability

### Road to Kunming

The world is experiencing an unprecedented rate of loss of biodiversity and ecosystem services, which poses dire risks to economic prosperity and to human well-being. The COVID-19 pandemic is a stark reminder of the close relationship between human and planetary health. It is estimated that about 70% of the emerging infectious diseases (e.g., Ebola, MERS, SARS) are from zoonotic origin. While the specific origins of the COVID-19 outbreak and its transmission pathway are yet to be determined, environmental degradation may well have played a crucial role. In addition, collapse of ecosystem services can lead to large economic losses: up to 10% of 2030 GDP in low-income countries (relative to business as usual), according to recent World Bank research. To build back greener and stronger, and to ensure sustainable growth, countries must better measure, value and manage natural capital and ecosystem services.

The 15th meeting of the Convention on Biodiversity, which concluded in late 2022 in Montreal, Canada, has adopted

the new Global Biodiversity Framework (GBF) as a key roadmap to ensure that the world’s development takes place in harmony with nature.

To support the development of the GBF and, more broadly, to ensure that post-COVID growth and job creation are sustainable, GPS carried out an analytical and engagement activity called “The Road to Kunming”. The objective of the work was to articulate a new, evidence-based narrative on the key role played by nature in development, and on policies required to sustain that role. The work resulted in the production of three reports, namely (in order of publication): a) [Mobilizing Private Finance for Nature](#), b) [The Economic Case for Nature](#), c) [Unlocking Nature-Smart Development: An Approach Paper on Biodiversity and Ecosystem Services](#). These three reports broke new ground on the economics of nature, identified options to mobilize finance for biodiversity and defined priority areas for the World Bank Group’s engagement in supporting nature-smart development.

The second and third reports were published during FY22 and are briefly summarized here. The “Economic Case for Nature” lays out the economic rationale for investing in nature. Based on first-of-its-kind global integrated ecosystem-economy modelling, the report assesses the consequences of a business as usual evolution of economies worldwide to 2030 and evaluates the merits of policy responses to the global biodiversity crisis. The report finds that a collapse of selected ecosystem services could result in a loss of \$2.7 trillion of 2030 global GDP (compared to business as usual - BAU); but nature smart policies (including agriculture subsidy reforms, payments for environmental services schemes and investment in agricultural research and development) could avoid up to 50% of BAU loss of natural areas while at the same time delivering net gains in global GDP on the order of hundreds of billions of dollars.

The Approach Paper on Biodiversity and Ecosystem Services argues that the rapid



global decline in nature is a development issue and proposes six global response areas intended to guide governments and inform broader discussions on how to integrate nature into development agendas. As countries formulate a set of new global biodiversity targets, this paper also offers insights on how the World Bank Group may be able to support countries in the implementation of the Kunming-Montreal Global Biodiversity Framework.

### Promotion and outreach

- Feature story: [The Road to Kunming](#)
- Press release: [Protecting Nature Could Avert Global Economic Losses of \\$2.7 Trillion Per Year](#)
- Infographic: [The Economic Case for Nature](#)
- Video: [Finding Solutions to Development Challenges in Nature](#)
- Video: [Banking on protected areas](#)
- Video: [Unlocking Nature Smart Development.](#)

### Selected media coverage

- World Economic Forum: [World Bank: Economy faces huge losses if we fail to protect nature](#)
- Politico: [Philanthropy alone can't save nature — governments must act](#)
- Modern Diplomacy: [Protecting Nature Could Avert Global Economic Losses of \\$2.7 Trillion Per Year](#)

### Impact

As recognized by CBD negotiators (Box 1), the reports have informed the GBF process, particularly in terms of the importance of reforming subsidies and expanding positive incentives (e.g., by scaling up payments for ecosystem services) and on mobilizing private finance to bridge the financing gap for biodiversity and ecosystem services.

### Box 1. Quotes from the launch event of “The Economic Case for Nature”

*“The [Biodiversity] framework... is going to be successful if we're all into it and it's great to see the work of the World Bank and if you can continue this work and engaging finance ministers around the world into this work, you can probably do it better than us, you speak their language you know them so please, please, continue this: It's going to be very important.”*

Basile van Havre, Co-Chair for the Convention on Biological Diversity's Open-Ended Working Group for a Post-2020 Global Biodiversity Framework

*“From the presentation of this work, I can see that we are beginning to change the language so that it can be better understood by our policy makers. We are now talking concrete numbers and the economic costs.”*

Francis Ogwal, Co-Chair for the Convention on Biological Diversity's Open-Ended Working Group for a Post-2020 Global Biodiversity Framework

The report on the Economic Case for Nature (ECN) has attracted attention in important policy fora, including:

- The Coalition of Finance Ministers for Climate Action: the report provided key analytical underpinnings for the Coalition's report on “[Nature-Related Risks and Potential Policy Actions for Ministries of Finance](#)”, which in turn prompted the coalition's decision to attend the Conference of the Parties (COP15) of the Biodiversity Convention (Finnish co-chair, personal communication).
- The Network for Greening the Financial System (NGFS): the report is being used as one of the key analytical underpinnings for developing nature-related financial risk scenarios within the newly formed NGFS [task force on “Biodiversity Loss and Nature-related Risks”](#). Discussions are underway to carry out quantitative analysis based on the original ECN report to inform those scenarios.

## The Changing Wealth of Nations 2021

The Changing Wealth of Nations (CWON) 2021 provides the most comprehensive and accurate database of wealth across a broad portfolio of assets (natural, human and produced capital) calculated for 146 countries for the years 1995 to 2018 in market exchange rates in accordance with rigorous international standards (System of National Accounts – SNA, and System of Environmental-Economic Accounting – SEEA). It also shows how wealth accounting can be applied to complex policy analysis to make more informed decisions while charting the development pathway for a country in uncertain times.

Compared to the previous issues in the series, CWON 2021 included a number of innovative features such as wider coverage of natural capital (expanded to include marine fisheries and mangroves); a more rigorous asset valuation for forest ecosystem services, timber, agricultural land, and minerals; the use of purchasing power parities (PPP) -- instead of market exchange rates -- to assess the distribution of wealth across countries; estimates of the impacts of COVID-19 on Human Capital; and analysis of asset portfolio management under risk and uncertainty.

### Promotion and media coverage of the report

CWON2021 was [launched](#) on October 28, 2021, at the Brookings Institution. The report launch was supported with the following pieces and events on World Bank websites:

- Feature Story: [Taking a Comprehensive View of Wealth to Meet Today's Development Challenges](#), (October 27, 2021)
- Video: [Beyond GDP: Measuring the Wealth of Nations for Green, Inclusive, and Resilient Growth](#)
- Press Release: [Global Wealth Has Grown, But at the Expense of Future Prosperity: World Bank](#)
- Infographic: [Measuring the Wealth of Nations](#)

- Blogs:
  - [We can no longer grow our economies by degrading our natural capital](#) by Juergen Voegelé, (October 27, 2021)
  - [Managing nature's assets is key to sustainable growth in Africa: Insights from the Changing Wealth of Nations 2021 \(May 12, 2022\)](#) by Jim Cust and Albert Zeufack
- Podcast: [Are Renewable Energy Assets Part of National Wealth? \(March 30, 2022\)](#)
- Policy Note: [Changing Wealth of Nations 2021: Priorities for Policy Action](#)
- Executive summary: [English](#) | [عربي](#) | [Español](#) | [Русский](#) | [Français](#) | [中文](#)
- Data: CWON 2021 Dataset
- Events:
  - [Moving beyond GDP: Sustainability, resilience, and inclusiveness for economic development \(October 28, 2021\)](#)
  - COP 26: [The Value of Nature for People and Planet \(November 5, 2021\)](#)
  - [World Bank Tokyo Online Morning Seminar "The Changing Wealth of Nations 2021" \(December 17, 2021\)](#)
  - [Green China Research Flagship Seminar \(June 20, 2022\)](#)

Selected Media Coverage for the report:

- The Hill: [When will 'economic growth' account for environmental costs?](#) May 12, 2022
- WEF: [This is why human and nature capital must redefine wealth for a sustainable future](#) Oct 28, 2021
- Devex: [Global wealth is increasingly unequal, says World Bank report](#) October 27, 2021
- Indian Wire: [Adding Natural and Human capital to the National stock can help inject Sustainability in true measures, suggests WEF and World Bank](#) November 1, 2021

## Impact

CCWON 2021 elicited considerable interest in the context of important processes for revising economic statistics. The CWON team was invited to several meetings of the UN Network of Economic Statisticians on a future beyond GDP (including [the fifth](#) and [sixth meeting](#) in the series). Under the UN Beyond GDP initiative CWON is recognized as one of the two candidates for the core composite wealth indicator to complement GDP as a core composite income/output indicator.

Based on chapter 14 of CWON 2021, the CWON team was asked to contribute to the 2025 revision of the UN System of National Accounts (SNA) and prepare a [guidance note on renewable energy as an economic asset](#). The Advisory Expert Group on National Accounts, which oversees the SNA revision, agreed that the Guidance Note passed the conceptual testing phase and qualified for the phase of early implementation and drafting by the SNA committee.

## The Changing Wealth of Nations 2.0

The Advisory Services and Analytics (ASA) program entitled “The Changing Wealth of Nations (CWON) 2.0” was initiated in early 2022 with support from both WAVES Plus and GPS. This activity is led by the environment team in close collaboration with sectoral teams across the Bank, including experts on agriculture, capture fisheries and aquaculture, forestry, carbon accounting, renewable energy, and statistics, amongst others. The objectives of this ASA are to (1) improve the measurement of nations’ wealth, especially in terms of renewable natural capital; and (2) enhance the understanding of the role comprehensive wealth and especially natural capital play in ensuring growth, sustainability, and resilience to shocks and stressors such as climate change. To achieve these objectives, this ASA will undertake activities under two pillars focused on data and analytical work, respectively.

Under the data pillar, all core CWON accounts—produced capital, nonrenewable natural capital, renewable natural capital, human capital, and net foreign assets – will be updated and reported in both market-exchange rates (MERs) and purchasing power parities (PPPs). In addition, the coverage and methodologies for selected assets will be improved, with a focus on renewable natural capital, prioritizing assets and ecosystem services that need to be accounted for to inform policy decisions on sustainability as well as climate change mitigation and adaptation efforts. The latter will add two new assets to renewable natural capital that are critical for climate mitigation (accounts for carbon storage in terrestrial and mangrove ecosystems) and for supporting the low carbon energy transition (accounts for renewable energy assets). In addition, to provide a more comprehensive assessment of the contribution of the blue economy to sustainability, pilot accounts for aquaculture assets will be developed. A scoping study is also being conducted to assess the extent to which water could be added to CWON. The results of this pillar will be published in the CWON data report.

The aim of the analytical pillar is to enhance understanding of the role comprehensive wealth and especially natural capital play in ensuring growth, sustainability, and resilience to shocks and stressors such as climate change. To this end, two models are currently being developed and expanded to endogenize non-renewable and renewable natural capital, respectively, in computable general equilibrium (CGE) models (the global ENVISAGE CGE model and the global Earth-Economy GTAP-AEZ model). These models will be soft linked and be used to conduct a forward-looking analysis of sustainability and resilience of growth and wealth under different climate change scenarios (optimistic and pessimistic) and actions (cooperative and uncooperative) as well as policy scenarios (ecosystem restoration, conservation and transition to green diversification - Box 2).



## Box 2. Addressing green diversification in CWON 2.0

The ENVISAGE modeling work will support an analysis of the transition from reliance on non-renewable natural capital (namely fossil fuels) to other, greener asset classes as the source of economic development. It supports country-level policy dialogue on diversification of assets with climate mitigation outcomes as the framing of the [low-carbon transition strategies for the fossil fuel dependent countries](#). It will help identify policies and strategies for countries that are rich in non-renewable natural capital (fossil fuels) to rebalance the portfolio of assets on which their growth depends.

The global CGE ENVISAGE developed by the World Bank and Purdue University for the previous Bank global and country work in Saudi Arabia RAS, GCC, Western Balkans was applied as the core model for Russia's CCDR. It supported extensive policy dialogue resulting in revision of Russia's long term Low Carbon Development Strategy submitted to UNFCCC. The work was interrupted after the Russian invasion of Ukraine. The model will be further updated to the GTAP11 database and upgraded with the new endogenous technological change and natural-human capital module. This improved model could also be applied to the policy reform dialogue in Nigeria (once the scope of the CIC work is finalized, see Box 6). It will also produce additional global adaptive policy pathways to a decarbonized world under deep uncertainty about the future geopolitical megatrends to underpin the global scenario's framework for future CCDRs.

Finally, foundational theoretical and empirical work is being conducted by a team of leading academics to explore how limited substitutability (between and within assets classes, and across different levels of aggregation) could be introduced into economic models and ultimately the computations of comprehensive wealth to help inform policy analysis on sustainability.

### Environmental Fiscal Reform

In FY21, a program of analytical work was started with "Environmental Fiscal Reforms (EFR): Options, Impacts and Implementation Pathways". The objective was to identify implementable options and roadmaps for gradual fiscal reforms (both on the revenue and the expenditure

side), capable of improving management of natural capital in landscapes, seascapes and coastal areas.

During the first 16 months of operation, the program has achieved a number of results in terms of development of analytical and modeling tools, production of technical and policy notes, and contributions to policy dialogue and project design.

a) Development of analytical tools.

Two models for quantitative assessment of EFR impacts were developed:

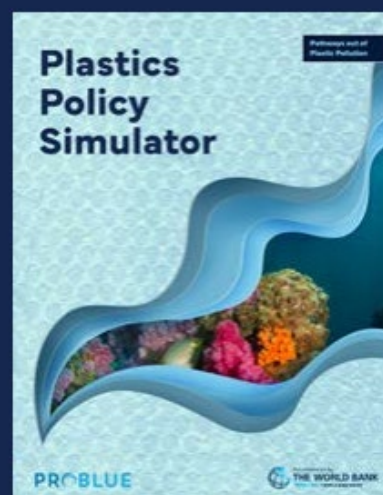
- GAINS-Policy for EFR for integrating Air Pollution and Climate Change Mitigation policies (phase 1 of model development)
  - Plastic Policy Simulator (PPS), a techno-financial/fiscal model for quantitative analysis of impacts of specific plastic policy instruments (Box 3). Initial funding for PPS was provided by PROBLUE. GPS resources contributed especially to the stage of piloting application of the PPS to fiscal policy dialogues for plastic circularity and pollution reduction at the country level.
- b) Production of technical and policy analysis.

The analytical work under the EFR underpinned eight publications: [WB Regular Economic Report on Western Balkans \(Greening the Recovery\)](#), [WB Regular Economic Report on Russia \(Special Focus chapter on Russia's Green Transition\)](#), [Clean Air and Cool Planet Kazakhstan](#), [Russia and Global Green Transition: Risks and Opportunities](#), IMF Financial Sector Assessment Program (FSAP) 2021 report for Russia (confidential), [Green Growth Report Serbia](#) (forthcoming), [policy note on air pollution taxes and fees in Serbia](#) (confidential for Serbia's Ministry of Finance), and the [report on Plastic Policy Assessment for Indonesia](#) (forthcoming).

c) Contributions to policy dialogue and project design.

The technical work on modeling and analytics summarized above provided the basis for the EFR work resulting in a number of contributions (listed below) to upstream policy dialogue or the design of projects.

- Joint IMF-World Bank Financial Sector Assessment Program (FSAP): Russia's IMF FSAP team used scenario CGE modeling of carbon pricing and CBAM as a macro-fiscal risk scenario framework to run their FSAP model and analyze the transition risk of Russia's financial sector in 2021.
- EFR team designed the prior action on reform of air pollution fees and taxes in Serbia for the Development Policy Lending operation, which was submitted by the World Bank to the Ministry of Finance.
- EFR analysis underpinned the domestic policy dialogue in Serbia on carbon pricing and the policy responses to manage EU CBAM impacts.
- At the request of the Special Envoy of the Russian Federation on Climate Change (Anatoly Chubais), the EFR team reviewed a confidential draft of the Russian Low Carbon Development Strategy and facilitated a series of mid/high level technical policy dialogues between the World Bank and Russian authorities and think tanks. As a result, the revised version submitted in 2021 to UNFCCC represented a more proactive and cooperative approach.
- The pilot application of the Plastic Policy Simulator in Indonesia involved intensive dialogue with the Ministry of Finance and the Ministry of National Development Planning on their plans to raise revenues with plastics taxes. Policy reform was put on hold by the increase of global energy prices.



### Box 3. The Plastic Policy Simulator

The Plastic Policy Simulator (PPS) is a techno-financial/fiscal model for quantitative analysis of impacts of specific plastic policy instruments. The model quantifies the flow of up to 20 individual plastic products and product types through the entire plastic value chain represented in the PPS model by 10 distinct groups of firms operating upstream and downstream in the value chain, as well as national and subnational government budgets and households. The policy triggers in the PPS include a menu of 24 policy instruments available to model users.

Among them there are several fiscal and para-fiscal revenue-raising instruments, such as a virgin plastic packaging tax, general plastic packaging tax, carbon tax, deposit refund system, landfill tax, mandatory modulated EPR fees and household waste fees. On the expenditure side of fiscal policy, the PPS calculates the public expenditure (subsidies) on alternative materials, re-use systems, formal and informal waste collection, sorting, mechanical and/or chemical recycling, incineration with energy recovery, reuse-derived fuels, and landfilling. Piloted in Indonesia, it is currently applied to support plastic policy dialogue in Ghana and the Philippines, while dialogues on its potential use to support policy reforms for plastic management are conducted in Nigeria and Türkiye.

# Component 2: Mainstreaming Sustainability

## Harnessing nature for climate action

The Country Climate and Development Reports (CCDRs) are the World Bank Group's new core diagnostic reports that integrate climate change and development considerations (Box 4). During FY22, GPS has provided global methodological support by identifying the key linkages between climate change, economic development, and natural capital and ecosystem services. At the country level, ongoing support consists of country-specific notes elaborating on these linkages at the country level, drawing on global data including, but not limited to, CWON. The notes help country teams include nature in CCDRs by providing a conceptual framework on these linkages that they can build on through analytical deep dives using national and global data. A note articulating key high-level strategic messages on linkages between green and blue natural capital and environmental pollution and climate adaptation/resilience and mitigation was prepared and disseminated to CCDR teams. Furthermore, country specific inputs have been provided to country teams synthesizing information available in various biophysical global databases on the extent and state of natural capital and the ecosystem services and associated monetary values in CWON.

The combined effect of this effort at the broader methodological level, with country-level support to individual CCDRs under Pillar 2, has been to integrate nature into CCDRs in countries such as Indonesia, Pakistan, and Rwanda, with more countries expected to follow suit in FY23 (India, Kenya and Ethiopia).

### Box 4. Country Climate and Development Reports and GPS support

The Country Climate and Development Reports (CCDRs) help countries prioritize the most impactful actions that can reduce greenhouse gas (GHG) emissions and boost adaptation, while delivering on broader development goals. CCDRs build on data and rigorous research and identify main pathways to reduce GHG emissions and climate vulnerabilities, including the costs and challenges as well as benefits and opportunities from doing so. The reports suggest concrete, priority actions to support a low-carbon, resilient transition. As public documents, CCDRs aim to inform governments, citizens, the private sector and development partners and enable engagements with the development and climate agenda.

CCDRs will feed into other core Bank Group diagnostics, country engagements and operations, and help attract funding and direct financing for high-impact climate action. CCDRs are prepared by World Bank country teams including staff from the Environment, Natural Resources and Blue Economy (ENB) Global Practice.

There are important linkages between the nature and climate agendas. These have been articulated as follows in a technical note prepared with GPS support for the task teams working on CCDRs:

- Natural resources and a healthy environment are two of the key building blocks for economic development and poverty reduction and resilience to climate change. They also offer crucial opportunities for climate change mitigation.
- At the same time, climate change often negatively impacts natural resources and environmental health, thus diminishing this potential. Some sector-focused climate change mitigation and adaptation efforts may also have detrimental impacts on nature, for example use of invasive species for terrestrial erosion control or quick afforestation, grey infrastructure for coastal protection against sea level rise, or nonnative crop species for resilience against climate factors.
- The poor stand to lose most from degradation of nature and the environment and have the least means to protect themselves against it. This is best illustrated by the fact that 79 percent of the global population living below the poverty line resides in rural areas (World Bank 2018) and depends greatly on biodiversity and ecosystem services for their livelihoods. Loss of life-sustaining ecosystem services, such as pollination, would greatly reduce the prospects for growing out of poverty in the poorest economies (Johnson et al. 2021).
- Therefore, it is important to assess synergies and trade-offs between policies and investments in climate and nature as part of the CCDR development process, including through the identification and prioritization of climate interventions that produce nature co-benefits.



## Integrating nature into macro-economic modeling

Macroeconomic models inform the core analytical products that underlie the World Bank’s policy dialogue with client countries and, as a result, the Bank’s operational and financial engagement. These products include Country Economic Memoranda (CEM), Systematic Country Diagnostics (SCDs) and, more recently, Country Climate and Development Reports (CCDRs). Of the 24 CCDRs delivered in FY22, 21 used one of these models.

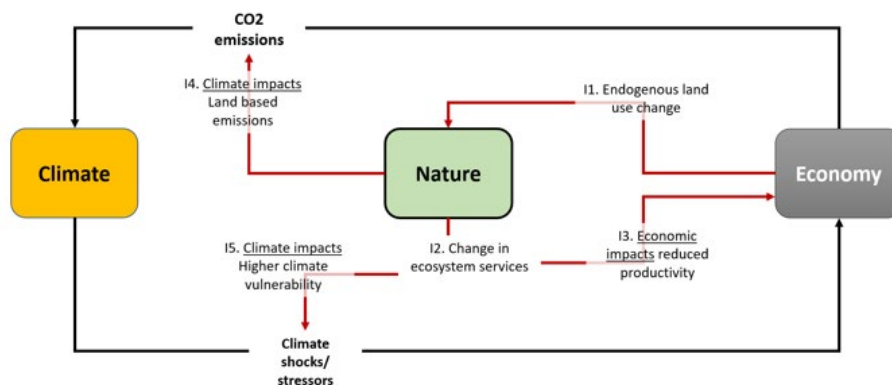
To boost the ability of the World Bank to support countries’ nature agenda, there is a need to enhance its macroeconomic models to reflect economies’ reliance on nature, to assess the consequences of nature degradation (including reduced carbon storage and sequestration, and increased vulnerability to shocks and stressors); and to evaluate policies that can make development more sustainable, more climate resilient, and less carbon intensive.

### Box 5. Capturing the role of nature in the World Bank’s main macro-economic models

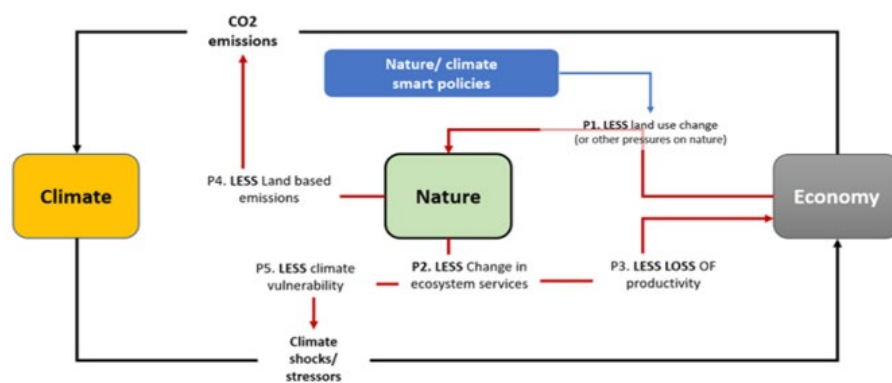
Macroeconomic models developed and used regularly by the Macroeconomics, Trade and Investment Global Practice (MTI GP) are a mainstay in the World Bank’s core analytical products and policy engagement with client country governments. They include the macro-structural MMod model and the computable general equilibrium (CGE) model MANAGE. These models depict the sectoral interlinkages within an economy and help assess the effects of shocks or policy changes. Impacts of shocks and policy options are evaluated in terms of macroeconomic indicators (such as GDP), individual sector output values, inflation, fiscal and current account deficits, employment and wages, and household income, as well as income distribution.

**Figure 2. Scope of the analytical work on the integration of nature into macro-economic models**

Panel A. Improved understanding of economy / nature / climate interactions



Panel B. Assessing climate / nature smart policies



A. An improved understanding of the economy/nature/climate interactions (Figure 2, Panel A), including:

- i. Improved treatment of land use dynamics, including (where possible) endogenous changes in demand for land for different land uses, such as increased demand for land for crops or livestock production at the expense of forests.
- ii. Assessment of the effects of land use change on the provision of ecosystem services (I2 in Figure 2, Panel A) and the resulting effects on the economy, carbon emissions, and climate vulnerabilities (I3, I4 and I5, respectively).

B. An improved ability to assess climate and nature-smart policies (Figure 2, Panel B), that, by reducing pressure on nature, can (relative to business as usual):

- i. Improve economic performance (P3 in Figure 2 Panel B),
- ii. Reduce carbon emissions (P4), e.g., via carbon sequestration by forests), thereby facilitating the transition towards low/net zero carbon, and;
- iii. Enhance climate resilience (P5), e.g., improved flood protection provided by coastal vegetation.

To this end, in FY22, GPS started an analytical task (ASA) – to be carried out jointly by the ENB and MTI GPs – with the objective of integrating natural capital and ecosystem services (NCES) into the Bank’s key macroeconomic models and core country diagnostics (Box 5). This objective will be achieved by a) systematically examining the theoretical aspects, data availability, and in-house capacity issues related to integrating NCES in MFMOD and MANAGE models through selected country pilots (including India and Uganda); and b) articulating a costed, medium-term strategy for systematically integrating NCES into core diagnostics and country policy dialogue. The ASA will be carried out in FYs 23 and 24.

## GPS data platform

The GPS Knowledge and Data Platform is intended to be a one-stop shop for data produced with GPS support. The platform will make various datasets produced under GPS more accessible to policy makers and a general audience, including the CWON database and underlying spatial data, Adjusted Net Savings, Hidden Dimensions of Poverty (HDD), and the Little Green Data Book, among others.

Recognizing the potential for synergies with related efforts (such as [ARIES for SEEA](#)), the World Bank’s GPS team has started consultations with partners such as the United Nations Statistical Division (UNSD) and the Basque Center for Climate

Change (BC3) for collaboration in the following areas: (1) further development of the ARIES technology, particularly as a way to rapidly develop natural capital accounts compliant with the SEEA standard and integration of ARIES in the [UN Global Platform](#) and the World Bank Data platform to enhance accessibility and use; and (2) production of global and local biophysical and monetary data on selected types of ecosystem services using local as well as global models where available. Such data could strengthen wealth accounting in future editions of The Changing Wealth of Nations and provide scope for a more granular analysis that could support the country level policy dialogue and analysis work by GPS under Pillar 2, as well as World Bank-supported interventions. Moreover, there is the possibility to add analysis functions, in particular for scenario analysis, which could be both pre-determined and user-specific to allow for a forward-looking policy analysis of the data.

The GPS Data Platform will have the potential to host new data produced directly by GPS. At the same time, it could serve as a gateway to draw on data produced by other platforms, such as ARIES for SEEA and initiatives with which GPS collaborates (such as the UN Global Platform), making a broad set of variables easily accessible for use and analysis. The concept for the GPS Data Platform is currently being developed and a concept note review is planned for Q4 FY23

## Training on landscape approaches and ecosystem service modeling

Watershed or landscape-scale approaches to targeting investments have been recognized as a way of achieving a balance among multiple development objectives in several sectors, including infrastructure and agriculture. Landscape approaches and ecosystem service modeling help provide a better understanding of trade-offs and complementarities across development and natural resource management.

Several tools like InVEST or ARIES for SEEA are currently available and can provide information on the location and magnitude of ecosystem services—including water flows, erosion and sediment retention, water quality regulation, carbon retention, and pollination, among others. At the same time, there are gaps in the capacity of developing countries (including World Bank borrowers) to use such tools to inform project design. This is particularly true in the prefeasibility, concept, and appraisal stages, where such analyses have the greatest potential to inform project design.

Recognizing such critical gaps, GPS is collaborating with PROGREEN to design a series of training sessions on watershed and landscape-scale approaches and ecosystem service modeling to target

investments in infrastructure, agriculture, ecosystem conservation and restoration. With support from a team of expert consultants, this hybrid training program will cover the conceptual framework for landscape approaches and ecosystem service valuation, access to global data and modeling resources, and guidance on how to use them for analyses at different scales and for assessing trade-offs.

The training will leverage ongoing efforts by country teams to develop landscape and ecosystem service valuation assessments, including recipients of GPS technical assistance. These countries could provide inputs to the design of the training and benefit from additional resources and guidance. The aim of this task is to build knowledge among technical specialists, government agencies and Bank staff on how to apply natural capital approaches and tools to incorporate landscape planning approaches into project development.

A pilot training supported by GPS was delivered in FY22 in Zambia as part of the first phase of the Biodiversity, Ecosystem, and Landscape Assessment (BELA) program, which was launched to support World Bank teams and clients in the application of ecosystem-based landscape assessments in World Bank engagements.

The pilot covered natural capital assessments, ecosystem services modeling tools, and their use in policy making. The training took place over two half-days with 64 participants (including representatives of different government agencies, research partners, and members of the Africa NCA Community of Practice). It provided insights into challenges and barriers related to capacity that prevent countries from utilizing landscape assessments in their projects, investments, and planning processes. The tailored training program was well received and demonstrated the importance of a demand-driven approach to capacity building to ensure strong engagement by participants.

This pilot also showed that engagement of existing, relevant communities of practice is key to reaching a broader





audience—especially participants from less resourced client countries. Although the training series was tailored to meet the unique capacity building priorities of Zambia, GPS and BELA worked closely with the Bank’s NCA Africa Community of Practice (NCA Africa CoP) to invite other countries to virtually participate in the training series. The training series content was not directly tailored to their specific needs, but feedback from the NCA Africa CoP virtual participants showed that the sessions were still useful to their context.

The full training program will be delivered in FY23-24 and will engage at least three countries, potentially selected among those already engaged through the GPS grants program, to provide a tailored training event (hybrid). While the content of the training will be adjusted to meet the investment and policy needs of countries participating in the full training series, some key topics have already been identified by the Zambia-based technical working groups, including forest and water ecosystem services (flood risk reduction, sediment retention, water quality), recreation services (tourism), policy brief preparation, remote sensing, and big data resources, among others. A key element of this training series is its

alignment with specific policies such as PES or water funds, land use planning, public transfers or subsidies, market-based mechanisms, and World Bank operations and projects that could better target investments using landscape approaches. The audience would consist of policy makers and technical staff in client governments, task-team leaders, and technical staff at the World Bank. Different modalities of the training would be prepared to target technical staff and/or senior managers as requested by clients. The training program will produce:

1. Three training courses in three different countries with the option for additional participants from other countries to join.
2. A library of customized training materials, posted on the GPS website for external dissemination as well as WB internal learning sites/resources, as appropriate.
3. A brief report with lessons from trainings, reflections on the application of these models and how this can inform policy.



Farmers harvest their crops near Kisumu, Kenya.

Photo:  
Peter Kapuscinski/  
World Bank

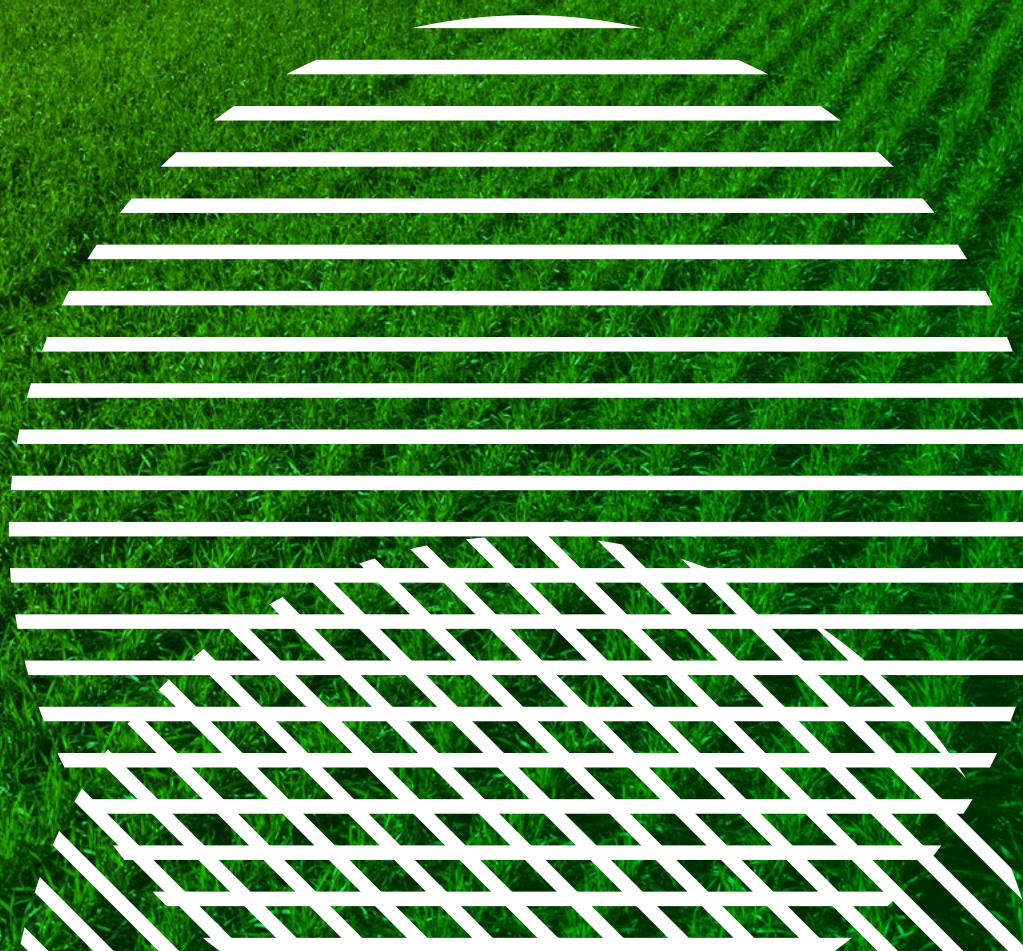




# B

PILLAR 2:

# Country and regional support



By the end of FY22, the combined WAVES Plus and GPS programs were engaged in 28 countries (or sub-regions) with 40 grants, including eight larger CIC grants and 32 smaller Targeted Technical Assistance grants (Table 4).

Sixty percent of the 40 grants are in countries in Sub-Saharan Africa and East Asia, which are in either the low, or lower middle-income groupings (Figure 3).

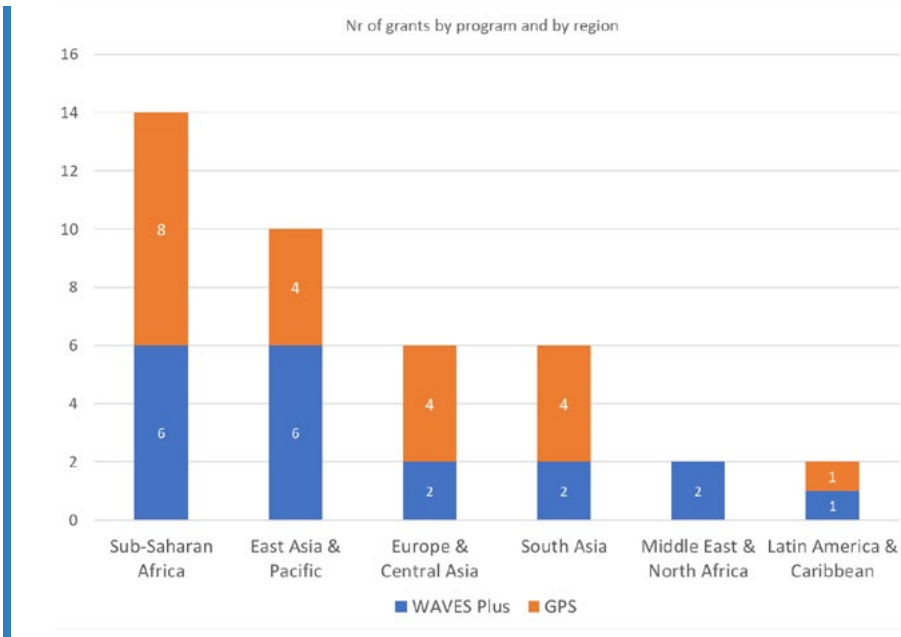
By coordinating and sequencing support from WAVES Plus and GPS, the Bank team was able to offer different modalities of engagement to better respond to different country circumstances. These modalities can be summarized with the aid of a simple typology (Table 5). Group “A” includes countries that have received one grant only (from either of the two programs). In the case of sub-group A1, support was provided via smaller TTA

**Table 4. Country grants by funding source and support instrument**

Source of Funding	Core Implementing Countries (CIC)	Targeted Technical Assistance (TTA)	Total
GPS	4 Ethiopia, Ghana, Nepal, Türkiye	17 Bolivia, Cambodia, Chad, Ghana, India, Indonesia (2 grants), Kazakhstan, Kenya, Kyrgyz Republic, Lao People’s Democratic Republic, Maldives, Nigeria, Pakistan, Rwanda, Serbia, Zambia	<b>21</b>
WAVES Plus	4 Egypt, Morocco, Uganda, Zambia	15 Cambodia (2 grants), Kyrgyz Republic, Lao People’s Democratic Republic, Madagascar, Mexico, Myanmar, Nepal (2 grants), Uganda, Uzbekistan, Vietnam, WACA (2 grants) (a)	<b>19</b>
<b>Total</b>	<b>8</b>	<b>32</b>	<b>40</b>

Note: (a) WACA refers to the [West Africa Coastal Areas Management Program](#) which supports the strengthening of resilience for coastal communities and assets in 17 western African countries.

**Figure 3. Number of grants by program and by region**





**Table 5. Number of countries and grants by typology of engagement and by funding source**

Country Groups	Nr of countries	Nr of grants		
		GPS	Waves Plus	Total
A1. Initial engagement	13	9	4	<b>13</b>
A2. Foundational engagement	3	2	1	<b>3</b>
B. Scaling up	2	3	2	<b>5</b>
C. Deepening	10	7	12	<b>19</b>
<b>Total</b>	<b>28</b>	<b>21</b>	<b>19</b>	<b>40</b>

grants, to pilot initial engagement (13 countries). Subgroup A2 includes three countries where circumstances justified directly deploying larger CIC grants, from WAVES Plus (Egypt), or GPS (Türkiye and Ethiopia).

In two counties that had already received initial support (group “B”), the Bank agreed to scale up support, moving from TTA to CIC (in the case of Nepal, switching from WAVES Plus to GPS support while for Ghana both grants are funded from GPS). Finally, 10 countries in group “C” that already received support from WAVES Plus (or WAVES, in a few cases), expressed interest in deepening the engagement through follow-on TTA support. In some cases, this complemented earlier CIC funding (Zambia, Rwanda and Uganda from WAVES). Further details on country support are provided in Annex 1.

Implementation of the WAVES Plus grants (which closed in December 2022) is complete. Activities outside of this document’s reporting period (FY22) will be summarized in the WAVES Plus close-out report, to be completed in the Spring of 2023. Implementation of GPS activities is well underway, with work in several of the TTA countries close to completion, and with good progress in the CIC countries cleared in late 2021 by the Steering Committee for inclusion in the program.

As further discussed in this report, considerable progress has been made in all the key results areas of the two programs (Table 6). Sixteen countries

have achieved results on production of data and/or analysis on natural capital and ecosystem services, with a total of 23 products delivered for the two programs combined. Similarly, 11 countries have made progress on using data and analysis from 21 products to inform policy processes and 14 countries have used data and analysis on natural capital and ecosystem services to inform 20 projects worth \$2.7 billion.

Thanks to improvements in the monitoring system introduced with GPS, the Bank team can assess in more detail the way in which the program is using data and analysis on natural capital and ecosystem services for the design or implementation of projects funded by the World Bank or other financiers.

By the end of FY22, the findings of the data and analytical work supported by GPS had been used to inform 10 projects worth over \$2 billion in eight countries. Work is underway in 6 countries to inform an additional 10 projects worth \$1.4 billion (Table 7).

**Table 6. Summary of results achieved by WAVES and GPS in the areas of data, analysis and policy uptake**

Result area	WAVES Plus	GPS	Total (a)
<b>Production of data and/or analysis (b)</b>			
Nr of countries	15	8	<b>23</b>
Nr of products	12	11	<b>23</b>
<b>Policy uptake of data and/or analysis (c)</b>			
Nr of countries	4	7	<b>11</b>
Nr of products	7	14	<b>21</b>
<b>Use of data and/or analysis in project design / implementation (d)</b>			
Nr of countries	13	7	<b>20</b>
Nr of projects	15	10	<b>25</b>
Project funding (US\$ billion)	1.4	2.09	<b>3.49</b>

Notes:

(a) The total is net of repeated country engagements, i.e., countries supported by both programs are counted only once

(b) In the case of WAVES Plus, the figures refer to countries that have contributed to either or both of the following indicators: “Countries supported by the project with at least two environment-related sectors in Natural Capital accounts in accordance with defined criteria and publicly accessible”; and “Countries supported by the project with at least two policy analyses related to Natural Capital accounting made publicly accessible”. In the case of GPS, the relevant indicator is the following: “Countries supported by the program that are producing publicly accessible data and/or analysis on natural capital and ecosystem services”.

(c) In the case of WAVES Plus, the figures refer to countries that have contributed the IR Indicator 1.6: “Number of key policy documents such as development plans, sectoral policies and strategies, or bills that reference NCA or the accounts”. In the case of GPS, the relevant indicator is “Policy and engagement documents informed by GPS-supported activities”.

(d) In the case of WAVES Plus, the figures are based on reports from country teams, as there is no relevant indicator in the WAVES Plus Result Framework (RF). In the case of GPS, the figures refer to the following indicator in the GPS RF: “Countries supported by the program that have used data and/or analysis on natural capital and ecosystem services in the design, and/or implementation, and/or evaluation of programs and projects co-financed by the World Bank or by other sources (number).”

**Table 7. Use of GPS results to inform projects**

Status	Nr of countries	Nr of projects	Funding (US\$ million)
Projects already informed	8	10	2,089
Work underway to inform projects	6	10	1,483
<b>Total</b>	<b>14</b>	<b>20</b>	<b>3,572</b>

**Table 8. Contributions of GPS to inform the design or implementation of projects**

Contribution of GPS	Nr of Projects already informed	Nr of projects with work underway	Total
Design or implementation of project (sub)components	3	3	6
Design or implementation of project’s monitoring systems		4	4
Informing the selection of sub-projects	1	2	3
Definition of prior actions /triggers/ DLIs	2		2
Other	4	1	5
<b>Total</b>	<b>10</b>	<b>10</b>	<b>20</b>

The work supported by GPS informs in different ways the design or implementation of projects (Table 8), including the design or implementation of selected project components, the design of the project's monitoring system, or the selection of sub-projects, to prioritize areas of particular significance for the conservation of ecosystem services.

This chapter discusses in further detail progress made through the two instruments of delivery of country level support: support to Core Implementing Countries (CICs); and Targeted Technical Assistance (TTA) Core Implementing Countries (CICs).

## Core Implementing Countries

Through the Core Implementing Country (CICs) window, the GPS/WAVES program delivers in-depth assistance over two to three years to developing countries, with grants of up to \$1 million per country, to:

- a) acquire, maintain and update data and information on natural capital and the values of ecosystem services both in physical and monetary terms, and;
- b) use such data in the design and implementation of development policies, programs and projects, including those co-financed by the World Bank.

In FY22 there were eight CIC grants active between the two programs (Table 9). This section of the report summarizes progress made in the CICs that had joined the WAVES Plus program in earlier years as well as the approach being followed to select additional CICs to be supported by GPS.

Factory workers producing fruit drinks at Blue Skies, in Accra, Ghana

Photo:  
© Dominic Chavez /  
World Bank





**Table 9. Core Implementing Countries supported by WAVES Plus and GPS**

Program	Nr of countries	List of countries
WAVES Plus	4	Egypt, Morocco, Uganda, Zambia
GPS	4 (a)	Ethiopia, Ghana, Nepal, Türkiye
<b>Total</b>	<b>8</b>	

Note: (a) Nigeria and Tunisia had also obtained the no-objection of the GPS donors for funding under the CIC window. However, as discussed below, the scope of work has not yet been finalized on account of the imminent general elections in both countries.

### Completion of the WAVES Plus work in CIC countries

The CIC programs under WAVES Plus (summarized in Table 10) are all finalized. In Egypt, the work focused on the issues of air emissions and waste. Air pollution is one of the government’s most urgent problems and one of the top priorities in Egypt’s Vision 2030 Strategy. Burning solid waste is a large contributor to emissions of particulate matter and a severe problem, especially in Greater Cairo. Air emissions and waste accounts are now informing local and national policies as well as being taken up in the WB Greater Cairo Air Pollution and Climate Change Project.

Morocco developed accounts for agriculture and fisheries and integrated them into an environmental-economic model with a focus on the SDG agenda. The work is taken forward by the World Bank’s Agriculture and Food Global Practice supporting the development of the agriculture sector’s main strategic plan, Green Generation Plan 2030 as well as with a new GPS grant with a focus on delivering inputs to the development of the country’s main fisheries sector strategy, the Halieutis Plan 2030.

In Uganda, land, wood asset and forest accounts have been developed and used in scenario analysis. Analyses of related markets such as wood fuels and tourism have provided further insights into options for future land use. Importantly, NCA was incorporated into the 3rd National Development Plan and into the planning for post-COVID-19 recovery. Another important development is the annual publication of environmentally

adjusted macroeconomic indicators by the Ministry of Finance, Planning and Economic Development. Additional accounts and associated analysis tools are now being developed with support from WAVES Plus and GPS.

Zambia has completed land, forest and water accounts, which are being used to inform the Eighth National Development Plan as well as the Apiary National Strategy. Funding for NCA has been included in the 2021 National Budget, and work on energy and minerals accounts has already started. Additional follow up funding from GPS will update the existing accounts using most recent data and support tourism accounts as well as development of an environmental-economic model for Zambia to be used by the Ministry of Finance and National Planning. The government launched the completed NCA technical reports on 15 December 2022 at COP15 in Montreal.

**Table 10. Summary of results achieved in CIC countries supported by WAVES Plus**

Natural capital accounts completed	Policy analyses related to natural capital accounts completed	Uptake of NCA work in policy documents <sup>a</sup>	Institutionalization
<b>Egypt</b>			
Air emissions and waste accounts	The information generated has proven instrumental in designing facilities for waste sorting and recycling, fee levels and contribution of the waste sector to the economy.	The waste accounting framework is to be used as a standardized approach to track waste by the Waste Management Regulatory Authority.	Capacity building workshops for stakeholders have been held. The accounts will form the basis of ongoing work with the government of Egypt to create an integrated air emissions database and under the World Bank's Greater Cairo Air Pollution and Climate Change Project.
<b>Morocco</b>			
Agriculture (crop production and livestock) and fisheries accounts	The agriculture and fisheries accounts were used in a macroeconomic modeling exercise using SDGSIM—a Computable General Equilibrium (CGE) model, with a focus on the SDG agenda.	Accounts and modeling for agriculture are being taken forward by the World Bank's Agriculture and Food Global Practice in their technical assistance support to the Green Generation Plan 2030—the agriculture sector's main strategic plan.	Stakeholders from key ministries and agencies attended several capacity-building programs, and the NCA work is expected to continue for agriculture and fisheries. The results informed the Blue Economy investment project.
<b>Uganda</b>			
Land and forest accounts	Adjusted environmental-economic macro indicators, assessed the wood fuel sector and performed statistical and economic analysis of Uganda's tourism expenditure.	NCA integrated into the 3rd National Development Plan (NDP III). National targets for Adjusted Net Savings and Adjusted Net National Income to be set.	NCA is identified as one of the strategies to guide investment, development, and management of natural resources. The results informed the Investing in Forests and Protected Areas for Climate-Smart Development project. Publication of adjusted macro indicators are now institutionalized within the Ministry of Finance, Planning and Economic Development. NCA is continued with a TTA grant.
<b>Zambia</b>			
Forest, water and land accounts	Results from the forest accounts brought the potential contribution of honey and bees wax to the Zambian economy to the attention of the Ministry of Lands and Natural Resources, subsequently feeding into the Apiary National Strategy.	The accounts have been used to inform the Eighth National Development Plan. The Forest Account Technical Report is feeding into the development of the Apiary National Strategy under the Ministry of Lands and Natural Resources. The results also informed the Transforming Landscapes for Resilience and Development in Zambia investment project.	Funding for further work on accounts has been included in the 2021 National Budget. A modeling team will use the accounts accordingly to build scenarios that will inform policy decisions on the use of natural resources. Data collection has commenced to create tourism and energy accounts. NCA is continued with a TTA grant.

Note:

(a) Including development plans, sectoral policies and strategies, bills of law, decrees, etc.

## CIC countries supported by GPS

At the end of 2021, the GPS steering committee endorsed the proposal to support six CICs: Ethiopia, Ghana, Nepal, Nigeria, Tunisia and Türkiye. In FY22, the Bank team completed a detailed scoping of the work in Ethiopia, Ghana, Nepal, and Türkiye, based on consultation with governments and other country-stakeholders.

Scoping work included defining how the work would contribute to the program-wide impact indicators (related to the production of data and analysis and to their use for projects and policies), identification of the associated outcomes and outputs, and planning the calendar of activities. As a result of this scoping work, it is expected that GPS will inform 10 World Bank projects worth over \$1 billion (Table 11) and thirteen policy or engagement documents (Table 12).

Scoping work for Nigeria and Tunisia has started, with progress on the definition of the likely impacts of the GPS work and on the necessary data and analytical activities (Box 6). However, the work has not yet been finalized. The general elections imminent in both countries warranted completing the process in a final round of consultations with the new governments, which are expected to take office in early 2023. Should agreement not be reached with either of the two new governments by March/April of



**Table 11. Summary of projects expected to be informed by GPS CIC support in four countries**

Countries	Nr of projects	Funding (US\$ million)
Ethiopia	5	652
Nepal	3	169
Türkiye	1	135
Ghana	1	103
<b>Total</b>	<b>10</b>	<b>1,059</b>

A class of 4 year olds and their teacher say namaste in rural Nepal.  
Photo: Aisha Faquir/World Bank

2023, the corresponding resources will be repurposed in full or in part.

In FY22, the World Bank team has also initiated a partnership with the United Nations Statistical Division (UNSD) whereby UNSD would take the lead in strengthening countries' capacity to generate natural capital accounts compliant with the SEEA standards and the World Bank would lead the dialogue with the government on the use of the accounts for policy analysis and applications. Work is currently underway to formalize the partnership.

**Table 12. Number of policy documents expected to be informed in GPS CIC countries by type of document**

Row Labels	Ethiopia	Ghana	Nepal	Türkiye	Total
<b>Policy document</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>11</b>
A. National/ subnational development plans	1	2			3
B. Sectoral or cross-cutting policy/ strategy	1	1	2	1	5
C. Bills of law, regulations, decrees	1	1			2
E. Government documents produced under the Biodiversity Convention (e.g., NBSAPs)		1			1
<b>Engagement Document (a)</b>	<b>2</b>				<b>2</b>
<b>Grand Total</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>13</b>

Note: (a) These include documents produced by the World Bank which are aimed to inform the policy dialogue and provide a programmatic framework for the partnership with national or subnational governments. For example: Climate Change Development reports - CCDRs, Country Economic Memoranda - CEMs, Systematic Country Diagnostics - SCDs, Country Partnership Frameworks - CPFs, Country Environmental Analyses - CEAs, etc.



## Box 6. Progress in defining the scope of CIC support in Nigeria and Tunisia

Nigeria, a multi-ethnic country with 36 states and the Federal Capital Territory, is Africa's largest country (over 200 million people) the largest economy (with a nominal GDP of around \$405 billion in 2020); one of the largest carbon emitters, and a highly vulnerable country to the impacts of climate change. The World Bank started a program of analytics on Climate Resilience and Environmental Management (CREM), which is a key element of the WB's engagement to reduce fragility and enhance climate resilience under Nigeria's 2021-2025 Country Partnership Framework. CREM will support ongoing efforts by the federal government to advance Nigeria's mitigation and adaptation agendas and will contribute to the WB's substantial support and policy dialogue in sectors fronting the mitigation challenges, including for the planning and implementation of the 2030 NDCs and 2060 ETP. CREM will also serve as a platform for engaging with the new government that will come into office after the general elections of February 2023.

Within the CREM framework, it is expected that GPS will support measurement and valuation of natural capital and ecosystem services, and use that information to assist with policy analysis and investment planning. The two focus areas – to be confirmed with the new federal government – are 1) reduction of carbon emission especially through carbon pricing instruments, and 2) enhancing climate resilience especially through improved management of natural capital in semi-arid areas. In terms of impacts of the GPS work, it is expected that the main ones will include:

- Compilation of publicly accessible data on natural capital and ecosystem services (land accounts, ecosystem services and GHG accounts).
- Use of data on natural capital and ecosystem services in the design and implementation of development programs and projects, including the project Agro-Climatic Resilience in Semi-Arid Landscapes (ACReSAL).
- Assessment of priority measures for reducing GHG emissions, in support of the implementation of the NDC plan, Nigeria's decarbonization program, the Mid Term National Development Plan, and the implementation of the National Climate Change Act.

Tunisia, a lower-middle income country of nearly 12 million people in North Africa, is highly vulnerable to the effects of climate change which, along with overexploitation, has contributed to degradation of oasis, rangeland and forest landscapes on which many poor Tunisians depend. This includes the lagging regions and nature-based tourism, as well as coastal erosion threatening a key economic sector that contributed 7% to GDP and two million direct and indirect jobs prior to the COVID pandemic. Marine plastic pollution due to mismanaged waste is diminishing the aesthetic value of the beaches. The World Bank is in the process of developing a Country Climate Development Report, which will be delivered in FY23 and will inform the next Country Partnership Strategy (CPS) for FY24-FY28.

Within the framework of the CCDR, the GPS grant is supporting the evaluation of ecosystem services' contribution to the economy under sustainable landscape management and different climate change scenarios. Furthermore, subject to confirmation with the new government, GPS is expected to support Tunisia in developing the foundation of Natural Capital Accounting and Valuation of Ecosystem Services (NCES) to strengthen the government's evidence-based strategy and policy-making capacity to sustainably utilize Tunisia's rich and diverse natural capital in the tourism sector and thus support sustainable nature-based and eco-tourism development. In this context, the main activities are expected to be:

- Production of publicly accessible data and analysis on NCES relevant to nature-based and eco-tourism in three key habitats (oasis landscapes, forests, and marine and coastal areas);
- Informing ongoing and future preparation and implementation of aligned projects, such as the Tunisia Sustainable Oasis Landscape Management (WAHA) Project;
- Informing the development of policies, strategies and action plans, such as tourism sector policies and management plans, the Blue Economy Strategy, the National Strategy for Green Economy (one of the strategic axes is ecotourism) and the National Oasis Landscape and Forest Strategy and Program.



Girls in classroom.

Photo:

© Arne Hoel / World Bank

## Ghana

### Country context

Ghana, a country in West Africa with a population of 31.71 million people in 2020, has achieved remarkable success in economic growth over the past two decades. Though the economic structure is shifting to services, 35–45 percent of jobs are still based on renewable natural resource sectors, including agriculture, forestry, livestock, and fisheries. It is noteworthy that Ghana's adjusted net savings has been negative since 2007 despite a simultaneous increase in the stock of nonrenewable capital. Integrating natural capital in policy planning and implementation will be crucial to Ghana's transition to a more inclusive, sustainable, climate-resilient and green economy.

The World Bank's new Country Partnership Framework (CPF) FY 2022-2026 has three focus areas: (1) enhancing conditions for private sector development and quality job creation, (2) improving inclusive service delivery, and (3) promoting resilient and sustainable development. Recently, the World Bank initiated the investment project Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSMP) which will support a landscape approach to improve management and economic productivity of forested ecosystems in the targeted landscapes.

### Objectives of GPS support

To strengthen capacity for measuring and valuing natural capital and ecosystem services, and to use that information for policy, development, and investment planning in Ghana, as well as informing the GLRSSMP.

### Key country partners

Key country counterparts are the Environment Protection Agency (EPA), the National Development Planning Commission (NDPC), the Ghana Statistical Service (GSS), and the Ministry of Finance.

### Expected impacts

By the time implementation of the GPS grant is completed, it is expected that the following results will have been achieved:

- Accounts for (1) land and ecosystem extent, and (2) ecosystem services will have been developed, and capacity built to sustain production of the accounts.
- The accounts will have been used to support Ghana's bid to develop payments for ecosystem services schemes and to prioritize ecosystem restoration areas both for the GLRSSMP and national landscape regulation.
- Environmentally adjusted macroeconomic indicators (Adjusted Net Savings and Adjusted Net National Income) will be integrated into the National Medium Development Policy framework.
- Information from the accounts will have been used in the update of the NBSAP and inform the environment and forestry sector medium-term policy frameworks.

### Progress made in FY22

The detailed scope of work has been defined through two World Bank and UNSD missions and reflected in a Theory



of Change for the CIC Ghana grant. Country Coordinators have been appointed from the three key agencies (EPA, NDPC and GSS). They chair a Technical Working Group (TWG) that leads the overall Ghana NCA program. Overall direction will be provided by the Steering Committee of the GLRSSMP, headed by the Ministry of Lands and Natural Resources (MLNR) and the Ministry of Environment, Science, Technology and Innovation (MESTI). Focal points have been identified at other key ministries, such as the Ministry of Finance, the Forestry Commission and Lands Commission. Sub-Working Groups (TWGs) for land and ecosystem extent accounts, ecosystem services accounts and adjusted macro-indicators have been formed. Development of land and ecosystem extent accounts as well as adjusted macro indicators have started, including capacity building activities both during missions and virtually. A core group participated in a training on biophysical modelling for ecosystem accounting (ARIES for SEEA) in Kigali, Rwanda, in June 2022, held by UNSD and UN Environment Program. A facilitator and a communications expert were hired to support the program locally.

### Key activities planned for FY23

Capacity building and development of the selected accounts will continue. It is envisaged that the land and ecosystem extent accounts will be finalized, as well as the adjusted macro indicators. These accounts will be launched at the planned National NCA Forum, targeting decision and policy makers, tentatively scheduled for May 2023. Initial analysis using biophysical modelling to inform landscape interventions will be performed with support from UNSD. Two missions with technical trainings will be held, as well as monthly virtual meetings with the sub-working groups. A communications strategy and action plan will be developed. Its implementation will start with showcasing some of the activities in the GPS newsletter. As part of the GPS seminar series, Ghana held a webinar in October 2022 to present the program. A second webinar, to be held in 2023, will showcase initial results.



## Ethiopia

### Country context

Ethiopia is one of the world's poorest countries but has achieved substantial progress in economic, social, and human development over the past decade. Though development in the country has recently been challenged by conflict and low resilience to shocks, a recent peace deal offers an opportunity to rebuild at all levels and promote development goals. Ethiopia aims to build a green economy and to follow a green growth path that fosters sustainable development. Through the development of its Climate-Resilient Green Economy (CRGE) strategy based on carbon-neutral growth, Ethiopia envisions attaining middle-income status by 2025. Within the framework of the CRGE Strategy, natural resource conservation and use include targets for the rehabilitation and sustainable management of watersheds, the conservation of biodiversity, and expanded provision of land use certificates, as well as the development of climate resilient agriculture, including promotion of climate-resilient crop species.

The World Bank's Country Partnership Framework (CPF) for FY 18-22 includes (as part of Focus Area 2 - Building Resilience and Inclusiveness), the objective to enhance management of natural resources and mitigate climate risks. In line with that, the World Bank is currently financing two landscape projects: the Resilient Landscapes and Livelihoods



Project (RLLP) and the recently approved Climate Action Through Landscape Management Program for Results (CALM). The RLLP project, a successor to the successful Sustainable Land Management I and II Projects, aims to improve climate resilience, land productivity and carbon storage, and increase access to diversified livelihood activities in selected rural watersheds.

### Objectives of GPS support

The GPS activity is part of the Ethiopia Resilient and Green Development Programmatic ASA (ERGD PASA), which aims to deepen knowledge and strengthen capacity to support climate resilient and low carbon policies and programs in Ethiopia. GPS support will contribute to the ERGD PASA (and to the broader objectives of the CPF), through supporting the development of natural capital accounts and integration of natural capital into policy decisions.

### Key country partners

The lead agency for the ERGD PASA is the Ministry of Planning and Development. Other key stakeholders are the Ministry of Agriculture, the Ministry of Finance, the Ministry of Water and Energy and associated agencies such as the Ethiopian Statistical Services, the National Accounts Directorate, the Environmental Protection Agency, the Policy Studies Institute, the Ethiopia Biodiversity Institute and the Ethiopian Space Science and Technology Institute.

### Expected impacts

By the time implementation of the GPS grant is completed, it is expected that the following results will have been achieved:

- Land, ecosystem extent and ecosystem services accounts are developed.
- Using accounts data, a tool for prioritizing landscape investments is developed, which will inform the Ethiopia Sustainable Land Management Investment Framework (ESIF).
- GPS-supported data and analysis will inform the design and implementation of Ethiopia's Payment for Ecosystem

Services Proclamation.

- Accounts are used to derive indicators for Ethiopia's 10-year development plan and NDCs.
- The Government of Ethiopia (GoE) will increase its capacity to produce NCA and use the investment prioritization tool.
- The CALM and RLLP projects and the CCDR for Ethiopia will be informed.

### Progress made in FY22

Compared to the other CIC countries, progress Ethiopia was to some extent constrained by the security situation in the country, with in-person missions resuming only in the later part of the fiscal year. A country coordinator was hired to manage contacts with the government and prepare for a scoping mission held in September 2022. Initial consultations have been held with key stakeholders.

### Key activities planned for FY23

Broad stakeholder consultations will be conducted during a scoping mission in collaboration with UNSD, leading to a confirmation of the scope of work and an agreed Theory of Change for the activity. Institutional arrangements will be put in place, including focal points for key agencies and the formation of technical working groups. A launch workshop including key stakeholders will be held. Plans for the various work streams will be developed. A data and institutional assessment will be done by a local consultant under guidance of UNSD and WB, expected to be finalized in January 2023. In connection with the work on developing PES schemes, the team will also provide input to the draft regulation on Payment for Ecosystem Services, which will be done during the first half of the fiscal year. Training and development of land and ecosystem accounts as well as the investment prioritization tool will be started in the second half of FY23, both virtually and during a first implementation mission.

A woman purchases clothes from a store in Lalitpur, Nepal.

Photo:  
Peter Kapuscinski /  
World Bank



## Nepal

### Country context

Forests are among the highest development priorities for Nepal. The Government of Nepal (GoN) has committed to maintaining 45 percent of Nepal's forest cover in its most recent NDCs, while increasing its contribution towards national income, in line with Green, Resilient, Inclusive Development (GRID) principles. Nepal is transitioning toward federalism in the forest sector,<sup>1</sup> including management of the asset and sharing of fiscal revenues to support it.

Consequently, data and analytics on forest conditions at sub-national levels is important for informing forest management plans and implementing revenue-sharing. GoN's Forest Research and Training Centre (FRTC; under the Ministry of Forests and Environment - MoFE) estimates that about 41.7 percent of Nepal's land area in 2019 was under

<sup>1</sup> Forest management responsibilities are now constitutionally shared between federal, provincial, and municipal governments (Schedules 6-9 of the Constitution of Nepal, 2015). At the same time, revenues collected by federal governments from forests (timber sales, royalties etc.) are also constitutionally required to be shared with provincial and municipal governments using a sharing formula (Article 251 of the Constitution of Nepal, 2015). In keeping with constitutional federalism, the Forest Policy and Act authorize provincial governments to sustainably manage national forests within their jurisdiction and empower municipal governments to play a key role in the operation and sustainable management of community managed forests, private forests, agroforestry and forest-based enterprises within their jurisdiction. Building on this, the recent 2022 Forest Regulation aims to fortify the governance framework at all three tiers of government for better and inclusive sustainable forest management (SFM) planning and implementation; and provides clarity on the handover process of forest areas to community user groups, including vulnerable groups, women, and indigenous people.

forests.<sup>2</sup> This area was estimated through remote-sensing data that minimizes measurement error at the national level. Therefore, it cannot be disaggregated to produce reliable estimates at the provincial and municipal level on which to base forest management plans and implement forest revenue sharing, as attempting to do so would produce estimates with significant non-systematic and non-classical measurement error.

Understanding the economic contributions of forests at the national level is important for strengthening national forest policy to secure livelihoods, income generation and sustenance.<sup>3</sup> The number of forest-dependent households; the contribution of forests to household livelihoods and incomes; threats to forest incomes and livelihood; and the role of gender, caste and social identity in mediating access to benefits from forests are inadequately understood. Such information is currently not generated by MoFE or the Central Bureau of Statistics (CBS). Filling this gap is important for prioritizing restoration and equity in natural resource management and supporting inter-ministerial dialogues and strategic planning at the national level.

Finally, supporting forest management plans and revenue sharing are important for successful implementation of The World Bank's Green, Resilient, Inclusive Development (GRID) Advisory Program in Nepal. Under GRID, forest projects in Nepal financed by the World Bank (ERPA, Forests for Prosperity) will be informed by insights on forest conditions and the opportunities, challenges and inequities associated with forest-based livelihoods and incomes in Nepal. The GRID program provides an overall strategic framework of engagement for the GPS grant, which will contribute essential data and analytical foundations for GRID's success.

### Objectives of GPS support

The GPS supported work will generate

<sup>2</sup> FRTC. 2022. National Land Cover Monitoring System of Nepal. Kathmandu, Nepal.

<sup>3</sup> According to NNRFC, the forestry sector contributed \$15.5 million in revenue in 2020/21, which was 29 percent of the total revenue from natural resources. These revenues are transferred in a proportionate ratio – federal (50 percent), province and municipal (25 percent each). NNRFC does not have data on income from community forests.

data and analytics that (1) MoFE needs to implement sustainable forest management plans, and (2) the National Natural Resources Financial Commission (NNRFC) needs from MoFE to implement forest-related revenue sharing in Nepal.

### Key country partners

The ASA team is working with the Ministry of Forests and Environment, Forest Research and Training Centre (MoFE), NNRFC (under the National Planning Commission), and CBS. Data and analytics are being coproduced with FRTC and CBS, the agencies with an official mandate to create biophysical and socioeconomic forest statistics, respectively. In addition, the ASA team is working with ICIMOD and the CGIAR (research organizations).

### Expected impacts

By the time implementation of the GPS grant is completed, it is expected that the following results will have been achieved:

- Data and indicators on forest extent and condition and on forest dependency will be generated and made publicly accessible.
- MoFE has an improved understanding of forest dependency, incomes, livelihoods and safety nets in Nepal, as mediated by gender, caste and social identity.
- Data and/or analysis on natural capital and ecosystem services are used in the design, and/or implementation, and/or evaluation of programs and projects co-financed by the World Bank, including, in particular, the Forests for Prosperity project and the Emission Reduction Purchase Agreement (ERPA).
- GPS work informs policy processes and decisions, such as updating the fiscal transfer formula applied by the NNRFC and the production of provincial and municipal sustainable forest management plans.

### Progress made in FY22

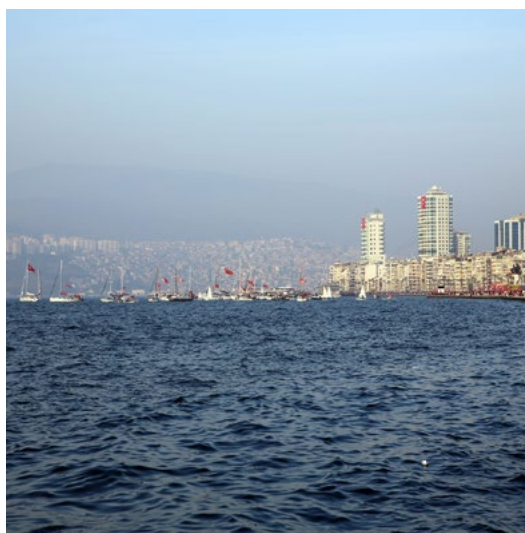
- Focal points have been appointed by CBS and FRTC to lead activities with the ASA team.
- Work programs (technical and

administrative) for generation of biophysical forest statistics and socioeconomic forest data have been finalized and approved by MoFE, FRTC and CBS.

- Procurement for all work programs is underway.

### Key activities planned for FY23

- Inception workshop and training workshops are planned for Jan-Mar 2023.
- Socioeconomic data collection will be completed by June 2023.
- Biophysical data generation will be completed by December 2023.



## Türkiye

### Country context

Türkiye has moved swiftly to green its national policies following the ratification of the Paris Agreement in October 2021, committing to net zero emissions by 2053 and strengthening institutional arrangements for climate change issues. It has drafted and updated important policy documents such as the Climate Law, National Climate Change Action Plan (NCCAP), and added climate change to the responsibilities of the Ministry of Environment and Urbanization (now Ministry of Environment, Urbanization and Climate Change, MoEUCC). In July 2021, the Ministry of Trade (MOT) released the Green Deal Action Plan



(GDAP) which was approved through Presidential Circular No2021/15 to help Türkiye transition to a sustainable and resource-efficient circular economy by providing a roadmap aimed at supporting the green transition in all relevant policy areas. The GDAP aims for harmonization with the principles and regulations adopted under the European Green Deal (EGD) in order to continue the process of integrating Türkiye within the scope of the EU Customs Union. In February 2022, the MoEUCC organized the first national Climate Council and set forward major decisions in line with Türkiye's 2053 net zero emissions and low carbon development.

In this context, GPS engagement is expected to provide relevant data that will inform the design of policies and action plans for Türkiye's green transition. The work is expected to inform national policies and strategies (such as the National Development Plan) by providing a framework for measuring and valuing the contributions of natural capital and identifying the interlinkages between the economy and environmental resources. This will support Türkiye's transition to a sustainable and resource-efficient economy and consolidate its position as a key trade partner to the European Union (EU).

### Objectives of GPS support

The objective is to generate knowledge and inform policy dialogues on green growth through strengthening capacities for the use of natural capital data (including accounts) in investments and policies, and to support the transition to a circular economy.

### Key country partners

- Ministry of Treasury and Finance (MoTF)
- Revenue Administration
- Türkiye Statistical Institute (TurkStat)
- Strategy and Budget Office (SBO)
- Line Ministries (Ministry of Environment, Urbanization and Climate Change; Ministry of Industry and Technology; Ministry of Agriculture and Forestry; Ministry of Trade)

- Local government and service providers (municipalities, municipal service authorities and provincial administrations)
- The business community (e.g., Turkish Industry & Business Association - TUSIAD, International Investors Association - YASED)

### Expected impacts

By the time implementation of the GPS grant is completed, it is expected that the following results will have been achieved:

- Compilation of publicly accessible data and/or analysis of natural capital and ecosystem services. Candidate areas include water (physical flows), energy (physical flows), air emissions and environmental subsidies.
- Use of data and/or analysis on natural capital and ecosystem services for the design, and/or implementation of, and/or evaluation of programs and projects, including:
  - Projects: Piloting of ecosystem accounting with OGM in the Bolaman river basin (TULIP, P172562) and roadmap to scale-up at a national level.
  - Programs: Demonstrate how NCAs can be used to monitor green growth and circular economy policies and programs.
- Use of data and analysis supported by GPS to inform policy processes, such as the National Circular Economy Strategy and Green Deal Action Plan.

### Progress made in FY22

During FY22, the Bank team completed initial consultations with country counterparts and finalized the scope of work, including expected outcomes, outputs and a calendar of activities across the six work packages for the program.

## Key activities planned for FY23

### **Work Package 1: Strengthening capacities for NCA data and use**

UNSD will work with TurkStat to develop a capacity-building and technical assistance plan for NCA based on the SEEA Central Framework and Ecosystem Accounting, including current and upcoming related EU Regulations. The scope of the work would include energy (physical flow accounts), water accounts (physical water flow accounts) and improved air emission accounts. This will lay the foundation to support development of NCA for environmental subsidies and similar transfers, broken down by economic sector with expected effects.

### **Work Package 2: Piloting ecosystem accounts at the project and national level**

This will aim to strengthen national capacities for applying NCA in selected World Bank supported operations in specified sectors, particularly in integrated watershed rehabilitation. The work in FY23 will focus on initiating activities for piloting ecosystem services accounts in particular watersheds and developing a roadmap toward national level ecosystem accounts.

### **Work Package 3: Circular economy (CE) policy analysis**

During FY23, this work package would initiate activities to develop policy diagnostics for analysis of the circular economy opportunities for a green transition. This will involve analysis of the macroeconomic impacts of circular economy policies and prioritization of the industrial sectors that can accelerate the CE transition.

### **Work Package 4 (TBC): Deep dive on regulatory and fiscal policy reform options for plastics**

Perform a baseline assessment of plastic flows through the value chain under current policies and market conditions. This task will apply the Plastics Policy Simulator (PPS) to estimate the baseline flow of plastic materials and products

through the entire plastics value chain in Türkiye under the assumption that the policy/regulatory framework and market conditions will not change during the simulation period.

### **Work Package 5: Strengthening the Turkish Environmental Label System**

In FY23, the focus will be an initiation of activities to support the environmental labeling criteria published for three product/service categories under the Turkish Environmental Label System.

## Targeted Technical Assistance (TTA)

Targeted Technical Assistance is a modality of engagement that complements support provided through the Core Implementing Countries (CICs) window, the original channel of assistance under the WAVES program. TTAs are smaller grants, intended to provide “just-in-time” support for specific investment or policy questions that can be answered through work on natural capital or ecosystem services.

TTAs are proving to be a valuable instrument of engagement: by being closely linked to Bank country programs, they can provide NCA insights to the design and implementation of World Bank operations. This is key, as it can showcase in a tangible way the practical usefulness of NCA work, thereby feeding directly into the design of World Bank projects.

The GPS and WAVES Plus work in the TTA window completed up to FY22 has resulted in the provision of evidence and insights on natural capital and ecosystem services in 20 countries, which has informed 15 country projects worth \$2.7 billion; along with policy processes and documents in nine countries (Table 13). The rest of this section provides further information on results achieved in these areas, separately for the WAVES Plus and GPS programs.



## TTA Grants supported by WAVES Plus

The implementation of TTAs supported by WAVES Plus is by and large complete. This includes work in Cambodia, Kyrgyz Republic, Lao People’s Democratic Republic, Madagascar, Myanmar, Nepal, Uzbekistan, and Vietnam, as well as support to the West Africa Coastal Areas Management program (WACA). Work on the remaining TTAs for Uganda and Mexico are expected to be complete by the closing of WAVES Plus in December 2022. The two main areas of operational

work that TTAs inform are forests and landscape management (Cambodia, Kyrgyz Republic, Lao PDR, Madagascar, Nepal, Uzbekistan), and ecosystem services in coastal areas (Myanmar, Vietnam, and the WACA program).

WAVES Plus supported the production of data and/or analysis on natural capital and ecosystem services in twelve TTA countries (Table 14). In the case of Nepal, it also informed national strategies and actions for improved management of natural capital, specifically forests and landscape management.

**Table 13. Summary of results achieved by the WAVES Plus and GPS TTAs.**

Result area	WAVES Plus	GPS	Total (a)
<b>1. Data and analysis (b)</b>			
Nr of countries	12	8	<b>20</b>
<b>2. Informing projects (c)</b>			
Nr of countries	8	8	<b>16</b>
Project funding (US\$ billion)	0.64	2.09	<b>2.73</b>
<b>3. Informing policies (d)</b>			
Nr of countries	1	8	<b>9</b>

Notes:

(a) The total is net of repeated country engagements, i.e., countries supported by both programs are counted only once.

(b) In the case of Waves Plus, the figures refer to countries that have contributed to either or both of the following indicators: “Countries supported by the project with at least two environment-related sectors in Natural Capital accounts in accordance with defined criteria and publicly accessible”; and “Countries supported by the project with at least two policy analyses related to Natural Capital accounting made publicly accessible”. In the case of GPS, the relevant indicator is the following: “Countries supported by the program that are producing publicly accessible data and/or analysis on natural capital and ecosystem services”.

(c) In the case of Waves Plus, the figures are based on reports from country teams, as there is no relevant indicator in the WAVES Plus Result Framework (RF). In the case of GPS, the figures refer to following indicator in the GPS RF: “Countries supported by the program that have used data and/or analysis on natural capital and ecosystem services in the design, and/or implementation, and/or evaluation of programs and projects co-financed by the World Bank or by other sources (number)”.

(d) In the case of Waves Plus, the figures refer to countries that have contributed the IR Indicator 1.6: “Number of key policy documents such as development plans, sectoral policies and strategies, or bills that reference NCA or the accounts”. In the case of GPS, the relevant indicator is “Policy and engagement documents informed by GPS-supported activities”.



**Table 14. Summary of results achieved by the WAVES TTAs in the areas of data, analysis and policy uptake**

Result area	Nr of countries	List of countries
Production of data and/or analysis (a)	12	Cambodia, Kyrgyz Republic, Lao PDR, Madagascar, Mexico, Morocco, Myanmar, Nepal, Uganda, Uzbekistan, Vietnam, WACA program(c)
Policy uptake of data and/or analysis (b)	1	Nepal

Notes:

(a) The figures refer to countries that have contributed to either or both of the following indicators: “Countries supported by the project with at least two environment-related sectors in natural capital accounts in accordance with defined criteria and publicly accessible”; and “Countries supported by the project with at least two policy analyses related to natural capital accounting made publicly accessible”.

(b) The figures refer to countries that have contributed to the IR Indicator 1.6: “Number of key policy documents such as development plans, sectoral policies and strategies, or bills that reference NCA or the accounts”.

(c) Refers to the second TTA grant for the Coastal Areas Program in West Africa, which focused on Ghana and Nigeria.

**Table 15. Summary of projects informed by the WAVES TTAs**

Countries	Nr of projects	Funding (US\$ million)
Madagascar	2	168.70
Vietnam	1	150.00
Uzbekistan	2	143.50
Guinea	1	65.00
Lao PDR	1	57.37
Cambodia	1	50.66
West Africa Coastal Areas Management program (WACA)	1	4.60
Myanmar	1	0.87
<b>Total</b>	10	640.7

In a number of cases, progress on the data and policy fronts made it possible to achieve impacts on investments. Data and analysis on natural capital and ecosystem services have informed ten World Bank investment projects worth \$640 million (Table 15). The focus areas included forests and landscape management (Cambodia, Kyrgyz Republic, Lao PDR, Madagascar, Nepal, Uzbekistan), and ecosystem services in coastal areas (Myanmar, Vietnam, and the WACA program).

To illustrate the synergies between data, analytics and projects, TTA support in the Kyrgyz Republic produced a pilot NCA for forests and a technical report which assessed the feasibility of measuring tourism sustainability by examining the potential to develop Tourism Satellite Accounts (TSA).

The work produced insights that informed the preparation of an investment project -- the Third Phase of the Central Asia Regional Links Program (CARs-3) -- which aims to increase regional connectivity and support sustainable tourism development in the Issyk-Kul Oblast region. As part of building national capacity for mainstreaming natural capital into investment and policy decisions, the analytics also provided clear recommendations for improving data collection by the National Statistics Committee, State Agency of Environmental Protection and Forestry, and Department of Tourism to better account for the respective sector contributions to the economy and inform appropriate decision-making processes.

In Madagascar, data and analytics on forests and landscape management helped develop a modeling platform for assessing the flow of selected ecosystem services (e.g., food provisioning, erosion control, carbon storage) as a key input to reorienting land use and land use change processes. The well-timed analysis informed two Bank supported investment operations: (1) Sustainable Agriculture Landscape Management Project (PADAP), and (2) REDD+ Emissions Reduction Program for incentivizing conservation and management of threatened forest landscapes in the northeastern part of the country.

In West Africa, the TTA support for the West Africa Coastal Areas Management program (WACA) contributed to the integration of nature-based solutions for improved management of coastal ecosystems in targeted countries. For example, the TTA in Nigeria focused on valuation of externalities related to inland and coastal water pollution and coastal deforestation. Similarly, the analysis on valuation of ecosystem services, especially on the role of mangroves in reducing the risk of coastal flooding, was conducted in Ghana and Guinea. The work in Nigeria supported the knowledge pillar of WACA and the WACA scale-up platform, which aims to facilitate access to knowledge and accelerate access to finance for coastal resilience. The initial results from valuation of ecosystem services in Ghana and Guinea informed Bank investment operations, including the Guinea Natural Resources, Mining and Environmental Management Project (P168613) and the West Africa Coastal Areas Resilience Investment Project II (P175525).

These results show that in a number of cases, TTA activities have helped countries tap into Bank investment operations to scale up efforts on the natural capital agenda, thereby amplifying WAVES Plus impacts. In addition, the TTA support has helped countries identify priorities for additional support from GPS to further strengthen national capacity for mainstreaming natural capital into development operations, strategies and policies. Using the taxonomy proposed

in Table 5 above, this can happen either through “scaling up” support (from TTA to CIC); or through “deepening” engagement, via follow-on TTA work (see the detailed taxonomy in Table 5). Further insights on the contribution of TTAs in target countries will be included in the WAVES close-out report.

## TTA Grants supported by GPS

To allow further flexibility in the response to country circumstances, GPS introduced two varieties of TTA grants:

- **Just-in-time grants (JIT) -**

These grants are aimed at providing inputs to operational work in an agile way, particularly to Development Policy Operations (DPOs). Funding is in the range of \$50,000 to \$75,000, to be disbursed indicatively over a period of 6 to 12 months.

- **Medium-size grants (MSP)**

These grants (for medium-sized projects, MSPs) provide more substantial support for in-depth analytical work. Funding will be up to \$250,000, to be disbursed indicatively over a period of 18 months.

By the end of FY22, there were a total of 17 TTA grants in 16 countries, including nine medium size grants (MSGs) and eight just-in-time (JIT) small grants (Table 16). These activities are currently at different stages of implementation and include work in Cambodia, Lao PDR and Indonesia in East Asia; Kenya, Rwanda, Uganda and Zambia in East Africa; India, Maldives and Pakistan in South Asia; Kazakhstan, Kyrgyz Republic and Serbia in Central Asia and Europe; and Bolivia in Latin America.

**Table 16. TTA Countries supported by GPS by region and instrument**

Region	JIT	MSG	Total
Sub-Saharan Africa	3	3	6
East Asia & Pacific	1	3	4
South Asia	1	2	3
Europe & Central Asia	3		3
Latin America & Caribbean	1		1
<b>Total</b>	<b>9</b>	<b>8</b>	<b>17</b>

**Table 17. Overview of results achieved or expected from TTA support provided by GPS**

Result area	Countries where results have already been achieved	Countries where work is underway to achieve results
1. Data and analysis	8	TBC
2. Informing projects	8	3
3. Informing policies	8	5

In several countries, GPS was able to create synergies by building from, and deepening, activities on natural capital based on earlier TTAs supported by WAVES Plus. TTAs are also allowing countries to explore opportunities and identify priorities for expanded engagement. The emerging results demonstrate how effectively the TTAs are helping countries strengthen their capacities in three main areas: (1) improving availability of data and analytics; (2) informing the design and implementation of investments, and; (3) informing national policies, including strategies, action plans and engagements.

Table 17 summarizes these findings, showing that data or analysis on natural capital has already informed investment projects and/or policy decisions in eight countries. Work is underway to achieve similar results in several other countries.

Table 18 shows the scale of current efforts in informing investment operations: in eight countries, TTAs have already helped in the design and/or implementation of ten investment projects worth more than \$2 billion. Similar work is underway in others (e.g., India, Kyrgyz Rep, Uganda) to inform projects worth close to \$0.6 billion.



Wheat harvest in central India.

Photo: Scott Wallace / World Bank



**Table 18. TTA Countries supported by GPS using data/analysis on natural capital to inform projects**

Group / country	Number of projects	Project funding (US\$ million)
<b>A. Projects already informed</b>	<b>10</b>	<b>2,089</b>
Bolivia	1	300
Chad	1	54
Indonesia	1	419
Kenya	2	950
Lao PDR	2	92
Mexico	1	14
Serbia	1	160
Zambia	1	100
<b>B. Work underway to inform projects</b>	<b>3</b>	<b>593</b>
India	1	400
Kyrgyz Republic	1	45
Uganda	1	148
<b>Total</b>	<b>13</b>	<b>2,682</b>

The progress made on policies is summarized in Table 19 and Table 20. GPS work is expected to inform policy documents (such as sectoral or national development strategies, regulations, decrees and action plans) and Bank engagement documents (such as systematic country diagnostics, country

environmental analysis, CCDRs and CPFs). TTAs have already informed a total of 15 such policy processes in eight countries. Work is also underway in five countries to inform an additional set of seven policy documents or processes related to natural capital.

**Table 19. TTA countries supported by GPS using data/analysis on natural capital to inform policy processes**

Group / country	Number of documents	Group / country	Number of documents
<b>A. Policy processes already informed</b>	<b>15</b>	<b>B. Work underway to inform Policy processes</b>	<b>7</b>
Chad	1	India	2
Ghana	1	Kenya	2
Indonesia	3	Mexico (a)	1
Kazakhstan	1	Pakistan	1
Kenya	1	Rwanda	1
Lao PDR	4		
Pakistan	2		
Serbia	2		
<b>Total</b>	<b>22</b>		

Note: (a) the initial phase of work in Mexico has been funded by WAVES Plus. The work will be completed with GPS funding, and it is expected to result in informing policy decisions.

**Table 20. Number of policy documents being informed in countries supported by GPS TTAs by type of document**

Groups/Subgroups	Result already achieved	Work is underway to achieve results	Total
<b>Policy documents</b>	<b>2</b>	<b>3</b>	<b>5</b>
A. Sectoral or cross-cutting policy/ strategy		1	1
B. Bills of law, regulations, decrees	1		1
C. Government documents produced under the Biodiversity Convention (e.g., NBSAPs)		1	1
D. Other document	1	1	2
<b>Engagement Document</b>	<b>13</b>	<b>4</b>	<b>17</b>
Country Climate and Development Reports (CCDRs)	3	3	6
Country Environmental Analysis (CEAs)	2		2
Country Economic Memorandum (CEM)	1	1	2
Country Partnership Frameworks (CPFs)	2		2
Systematic Country Diagnostics (SCDs)	2		2
Other	3		3
<b>Total</b>	<b>15</b>	<b>7</b>	<b>22</b>

The GPS TTAs provide inputs into the policy process through three demand-driven channels: (1) definition of priority areas for policy action (in strategy/ planning documents), (2) scenario/policy analysis for designing/adopting new policies and plans; and (3) assessment of existing policies using accounts data or quantitative analysis of data on natural capital. These modalities are summarized in Table 21.

These findings highlight the significant progress being made in multiple areas, including enhancing the availability of more coherent and reliable data on natural capital and technical support through economic analysis of data to facilitate the mainstreaming of critical sustainability issues into policy and investment decisions.

**Table 21. Modalities by which policy/engagement documents are being informed in countries supported by GPS TTAs**

Group	Progress on informing policy documents		Total
	Already informed	Work underway	
A. Definition of priority areas for policy action (in strategy/ planning documents)	7	2	9
B. Scenario/policy analysis for designing/ adopting new policies and plans	4	3	7
C. Assessment of existing policies using accounts data or quantitative analysis using data on natural capital/ ecosystem services	1	1	2
D. Other	3	1	4
<b>Total</b>	<b>15</b>	<b>7</b>	<b>22</b>

The progress made in supporting countries to build institutional capacity is further highlighted using examples from Zambia and Lao PDR (Box 7). Zambia has made environmental sustainability one of its top priorities, recognizing NCA as an essential tool for planning and policy. Lao PDR is aiming to integrate natural capital into its national strategy for green growth. The experience of these countries demonstrates the importance

of complementing initial support from WAVES Plus with GPS resources in low- and lower middle-income countries. It ensures that a critical mass of capacity is generated for mainstreaming sustainability into the development process, especially in terms of data and timely, policy-relevant analysis on natural capital to inform decision making on policy and investments.

### **Box 7. Results achieved in Zambia and Lao PDR with TTA support from GPS**

In Zambia, which has 40% of its wealth in natural resources, the GPS TTA supported government agencies as they built on the foundations laid by WAVES Plus and contributed to mainstreaming NCA into national accounting and policy processes. Updated natural capital accounts for land (2018-2021) and water (2017-2020) have been published. In addition, a new account developed for tourism (wildlife and protected areas) is under review. The government is also planning to update the forest account developed under WAVES Plus. This experience has further encouraged the government to initiate independent work on NCA for an energy and minerals account – indicating the value of learning and positive spillovers that contribute to mainstreaming sustainability across sectors. The GPS TTA also contributed to finalizing two technical reports that are expected to inform a new pipeline project under development that will support green, resilient and transformational tourism development.

In Lao PDR, GPS is also building on an earlier TTA grant funded by WAVES Plus to strengthen valuation of natural capital in selected landscapes. The GPS grant will also support early implementation of the new green jobs and sustainable landscapes operation (the \$57.36 million Lao Landscapes and Livelihoods project - LLL) and reinforce the green growth policy and investment dialogue, particularly on biodiversity and nature-based tourism. GPS is supporting capacity building on NCA through training on environmental data management and analysis. The activity builds on past Bank engagements and leverages parallel bilateral support (e.g., from Luxembourg).

On the policy side, GPS is supporting implementation of the National Biodiversity and Strategic Action Plan (NBSAP) through targeted analytical support to assess the financial sustainability of the protected area system through ties with the LLL project. The TTA is expected to have significant impacts for protection of biodiversity and natural capital in Lao PDR. Conservation forests in Lao PDR possess globally significant biodiversity and habitat integrity, which is a comparative advantage for nature-based tourism and related green jobs and livelihoods. GPS is helping Lao PDR develop a private finance roadmap, which will include policy and institutional reforms to facilitate the mobilization of private investment in nature-based tourism and biodiversity conservation. The rollout of the roadmap will be supported through the LLL project with financing to attract private investment and generate additional revenues for Protected Areas (PAs).

In addition, GPS is supporting the government with preparations for consultations for a Prime Minister's Decree on Payment for Ecosystem Services, which is being considered as part of the 2030 National Green Growth Strategy. The grant will also inform the benefit sharing plan for the parallel REDD+ Emissions Reduction Purchase Agreement (ERPA), which will be financed through the World Bank's Carbon Fund and Lao PDR, creating better incentives to reduce deforestation and forest degradation.

Nutritious meals are bringing more children to school.  
Lao PDR

Photo:  
Bart Verweij /  
World Bank





As part of a broader effort on the mobilization of finance for nature and climate action, the TTA window has also supported FY22 work on financing options analysis in Jordan and Kenya. In each country, the work estimates the financing gap to achieve country-driven targets for nature and climate action. After defining key performance indicators (KPIs), the analysis illustrates how different financing instruments, including those linked to KPIs, can help meet financing needs for priority nature and climate initiatives in ways consistent with the countries' macroeconomic, fiscal, and financial stability. Delivery of the final reports on these two pilot countries is expected in FY23.

This work will provide insights on possible future initiatives at the global level, aimed at supporting countries in their effort to mobilize financial solutions (including debt and non-debt instruments) and promote systemic change.

## Africa Community of Practice on Natural Capital Accounting

In response to the strong demand from countries and from individuals in government, academic, civil society, and the private and non-governmental sectors, the Africa Community of Practice (AFR NCA CoP) was established in 2019 with support from WAVES Plus (and later GPS) to build capacity and momentum to mainstream NCA into policy and statistical production in Africa (Box 8).

During the first half of FY22, the CoP made steady progress, according to the work program as approved by the Steering Committee. Two webinars were offered to share country experiences:

### Box 8. Overview of the Africa NCA Community of Practice

[A kickoff meeting for the AFR NCA CoP](#) was held in Kampala, Uganda in November 2019, in association with the WAVES/GPS Fourth NCA Policy Forum. Bringing together 72 participants from 18 African countries as well as regional and international agencies working on NCA, the meeting agreed that the following elements were needed for the CoP to be successful: (1) clear and achievable objectives for the Community of Practice with a timeline attached, (2) grounding of the Community of Practice within the region through strong linkages to regional institutions and building on existing work, and (3) enabling conditions such as Focal Points within participating countries.

Subsequently, the WAVES Plus program supported activities towards the launch and operationalization of the CoP. An interim working group, composed of 12 volunteers from 10 countries and an NGO (present at the kickoff meeting in Uganda) was established on February 12, 2020. During FY20, the interim working group (1) articulated the first workplan for the CoP, including additional details on potential working groups and leads thereof, (2) identified and proposed government focal points, and (3) developed the governance structure that was later approved by the Partner Institutions (PIs) and Steering Committee (SC).

The AFR NCA CoP has been operationalized with founding partner institutions: World Bank, UN Statistical Division, UNECA, UNEP, African Union Commission, African Development Bank, The Gaborone Declaration for Sustainability in Africa, Capitals Coalition, Conservation International, and Green Growth Knowledge Partnership. Subsequently, IUCN, Conservation Strategy Fund and WWF have joined the CoP as partners.

Member countries that wish to participate in the Community of Practice are encouraged to nominate at least one – and no more than three – Focal Points. A total of 17 National Focal Points had been nominated by June 2022. The Steering Committee of the CoP is represented by six partner institutions and seven member governments based on regional representation, while implementation of the activities of the SC-approved workplans is delegated to the Secretariat, which is operated by a team at the World Bank, with the funding of WAVES Plus and GPS.



Frame from Africa  
Natural Capital  
Accounting Community  
of Practice video  
presentation.

- July 29, 2021 [Living in Harmony with Nature: Lesson from Ethiopia's Experience on Nature-Based Solution and Green Legacy Initiative](#)

- September 30, 2021 [Protecting East Africa's Natural Capital: The Cost of Inaction](#)

Training was supported in different ways:

- The CoP offered scholarships to three participants in the online course “Economics & Finance for Environmental Leadership” implemented by the Conservation Strategy Fund on July 12-30, 2021.

- The online training “Valuation of Ecosystem Services in the Context of Natural Capital Accounting” on August 11-20, 2021, aimed at familiarizing government professionals with valuation of ecosystem services and how it can be used for policy analysis. Thirty nominated participants from the African countries of Ethiopia, Kenya, Rwanda, Tanzania, Uganda and Zambia attended the training, of whom 12 received certificates for completing the training course successfully.

- The same course was offered on November 23 - December 7, 2021. Thirty-two nominated participants from the African countries of Botswana, Ghana, Nigeria, South Africa and Zimbabwe attended the training, of whom 15 received certificates for completing the training course successfully.

- May 5, 2022 [ARIES for SEEA for rapid natural capital accounts generation: Towards fast, transparent and standardized yet customizable ecosystem accounts.](#)

As knowledge products, two newsletters were issued:

- Issue 003 | October 2021
- Issue 004 | December 2021

Following an internal World Bank Review during the second half of FY22, it was agreed that the World Bank's contribution to the CoP would be extended to December 2023. In the final stages of implementation, the Bank will optimize synergies with other GPS-supported activities, including training on the use of ecosystem services modeling approaches for landscape projects (discussed under Pillar 1 of this report) and the GPS webinar series (discussed in the section on cross-cutting work). Overall, the CoP will deliver training, exchange events and other activities to reach out and facilitate additional countries' readiness for future GPS engagement.

## Global outreach and engagement

### The Policy Forum on Natural Capital Data and Analysis for Better Decision Making

The Policy Forum is the signature annual event of the GPS/WAVES program. Its objective is to bring together policy makers (the actual or potential users of natural capital data) and the natural capital data providers to share knowledge and experiences on how to incorporate natural capital in decision making. Past forums focused on specific topics of significance in the global debate, including Sustainable Development Goals, biodiversity and climate (2018), integrated landscape management (2019), and greening the post-COVID recovery (2021).

### Fifth Policy Forum

After a year of absence due to the COVID-19 pandemic, the [Fifth Policy Forum on Natural Capital Accounting for Better Decision Making – Greening the Recovery](#) was held September 15-16, 2021. The Fifth Policy Forum discussed practical ways in which natural capital accounting

(NCA) can make green recovery initiatives more effective and sustainable. The Fifth Policy Forum engaged over 330 participants from the NCA community and those working on green recovery policies. Participants discussed the data needs for green recovery policies and how NCA can meet those needs to guide green recovery efforts and institutional reforms. A [background paper](#) was published before the forum, and [proceedings](#) were prepared post-forum.

This was the first policy forum held in a virtual format, and the team learned a great deal in its preparation and implementation. One major advantage of the online forum was that it was possible to invite many more participants compared to the face-to-face format. The forum helped strengthen the NCA network and successfully brought together the NCA and green recovery communities

to explore practical ways in which NCA can make green recovery initiatives more effective and durable.

The discussion resulted in eight key messages and 10 priority action areas as articulated in the forum proceedings (Box 9). The priority areas span five themes (1) the capacity to produce and use NCA, (2) communications on NCA for green recovery, (3) community-building and engagement on NCA for green recovery, (4) collecting natural capital information, and (5) cash for resourcing the priority need and influencing investments affecting natural capital. The Fifth Forum created momentum in discussions leading up to the UN Climate Change Conference of the Parties (COP26) and UN Convention on Biological Diversity (COP15), helping to identify priority areas for follow-up action.

### **Box 9. Conclusions and recommendations from the Fifth Policy Forum**

Key Message 1. Investing in natural capital provides social, economic, and environmental benefits.

Key Message 2. Until now, post-pandemic recovery efforts have largely ignored natural capital.

Key Message 3. Natural capital accounting can support a green recovery in all the necessary phases of decision making, especially where modelling makes use of NCA data.

Key Message 4. Natural capital accounting helps to create an enabling environment for actors to cooperate in a green recovery.

Key Message 5. Data and expertise are already in place to support a green recovery.

Key Message 6. NCA is most effective when mainstreamed across all ministries.

Key Message 7. NCA should be included as a core means of achieving the biodiversity, climate, Sustainable Development Goals (SDGs), and green recovery agendas in coherent ways.

Key Message 8. Planning for a green recovery also entails developing and mainstreaming NCA within and across countries.

Priority Area 1. Build capacity to produce NCA.

Priority Area 2. Build capacity to use NCA.

Priority Area 3. Institutionalize NCA across whole-of-government systems.

Priority Area 4. Develop communications strategy and materials that improve NCA understanding among post-COVID-19 recovery players and networks.

Priority Area 5. Deliver messages on NCA for the upcoming climate and biodiversity COPs, as well as other high-profile international fora, such as on the SDGs, oceans, and freshwater.

Priority Area 6. Grow a community of practice on NCA for a green recovery.

Priority Area 7. Form specific working groups to promote and support NCA for a green recovery.

Priority Area 8. Develop a strategy for building trust in NCA.

Priority Area 9. Accelerate data collection and data protocols for NCA in priority sectors and localities for a green recovery.

Priority Area 10. Fund capacity building and statistical infrastructure to integrate a wider range of data sources on nature.





# FINANCING FOR NATURE

data and analytics for financial and policy decisions

NOVEMBER 2-3 | VIRTUAL MEETING



## Sixth Policy Forum

For the 2022 edition of the Forum it was decided, based on internal and external consultations (including with GPS donors), to focus on financing for nature as a way to take stock of progress made on the topic, provide insights for the 15th meeting of the Conference of the Parties (COP15) of the Convention on Biological Diversity, and identify priority areas for future work.

A draft concept note was developed for the forum and used to engage in discussions across World Bank teams, including ENB, FCI, TRE, and OPCS. The concept was then shared with UNSD partners and GPS donors. The organizing committee arranged preparation of background material for the forum around the two focal areas identified for the meeting:

### 1. Integrating natural capital into investment decisions:

Incorporating the data on biodiversity conservation, land restoration, and sustainable use of resources in credit ratings, impact measurements, financial forecasts, stress testing, reporting, scenario analysis, and creating innovative financing solutions to scale nature-based impact investments.

### 2. Natural capital informing policy decisions:

The challenges and opportunities for aligning policies with nature- and climate-resilient development, creating enabling environments for directing investments away from harmful activities, and striving for policy coherence among different ministries.

The forum was held in November of 2022.



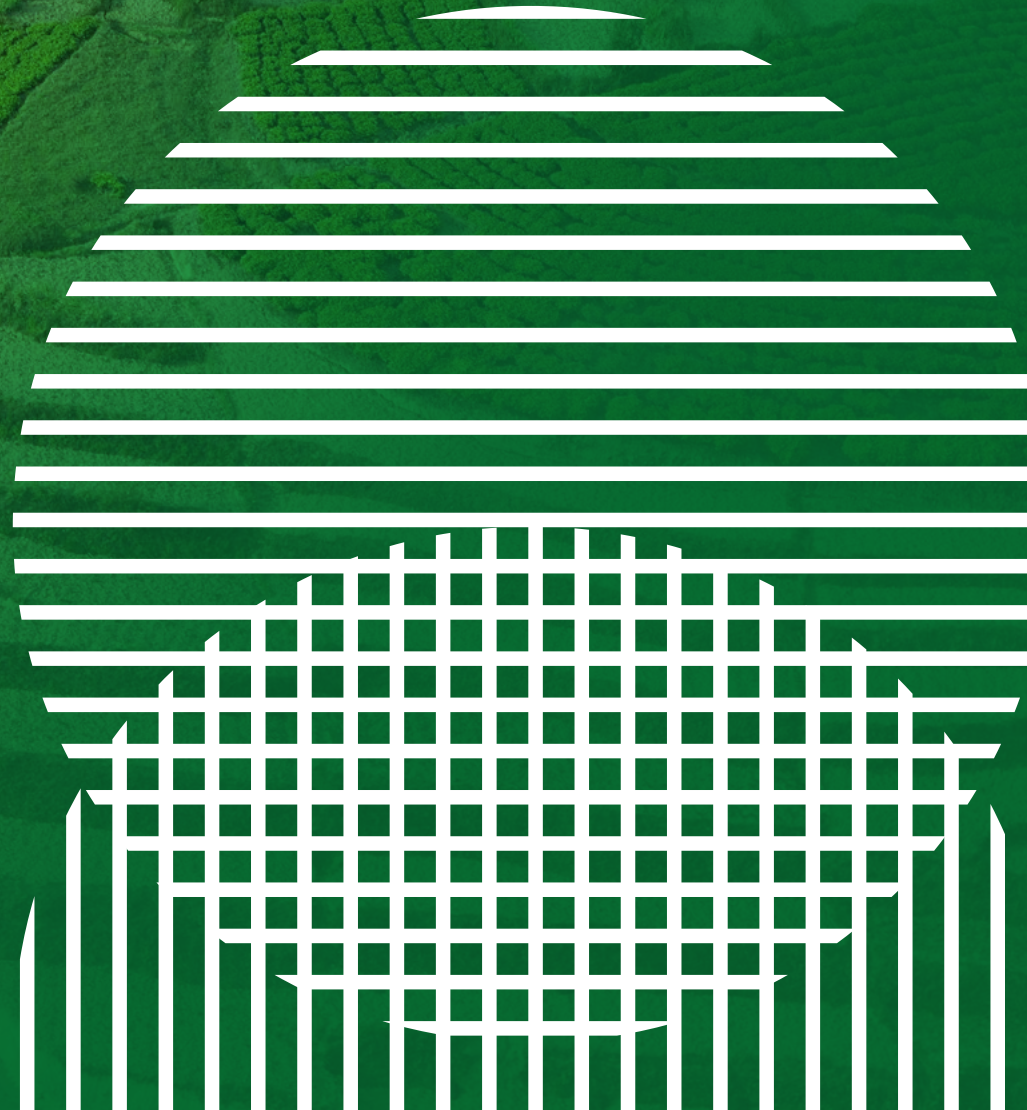




C

PILLAR 3:

# Sustainable finance

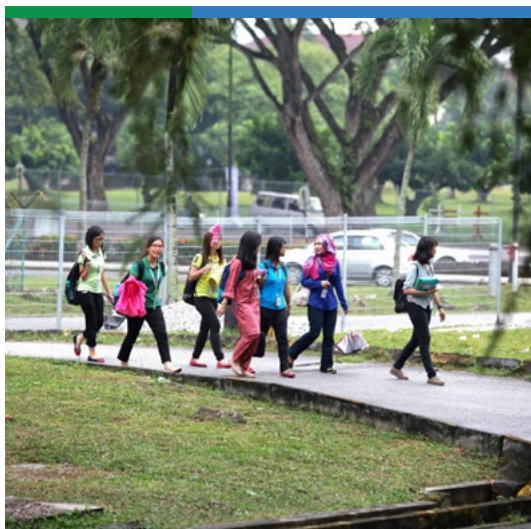




This pillar aims to develop data, research, diagnostics, and technical assistance around Environmental, Social and Governance (ESG) data, with a focus on nature. This information can then be integrated into investment decision making, financial regulation, and risk assessment.

In FY22, demand continued to grow for data that can help financial market actors contribute to achieving the Sustainable Development Goals, the Paris Agreement goals, and the goals anticipated from the post-2020 Global Biodiversity Framework. The Sovereign ESG Data Portal, which launched in late 2019, provides country-level ESG criteria, and has been widely used by investors (up to half of sovereign ESG investors) in portfolio analysis and has even informed the design of indexes. Pillar 3 delivered a research agenda on topics ranging from wealth accounting and sovereign ESG, to sovereign sustainability-linked bonds and nature-related financial risks. The team conducted a nature-related risk assessment in Malaysia and contributed to research and analysis on the topic under the Coalition of Finance Ministers for Climate Action and the Network for Greening the Financial System (NGFS). The Pillar 3 team supported clients in their progress on ESG/sustainability reporting (including in Cambodia, Thailand, Sub-Saharan Africa).

Malaysian students in a public university.  
Photo: Nafise Motlaq / World Bank.

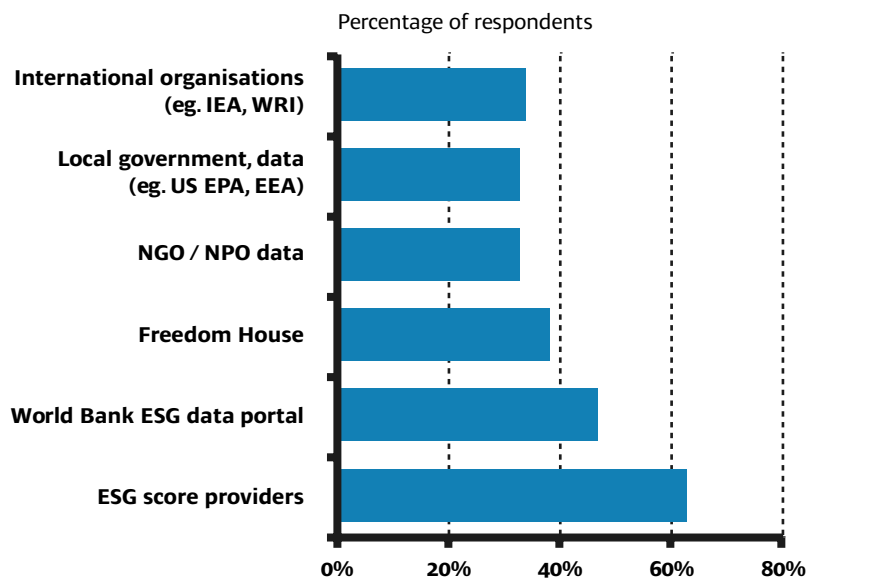


## Data: Improved sustainability information for financial markets

The World Bank Sovereign ESG Portal (Box 10) includes indicators and resources for sovereign-level ESG analysis. The Sovereign ESG Data Portal has had more than 21,734 unique visitors since its launch, as of September 2022. Of those, 9,391 were return visitors. In the past 12 months, the portal had 12,467 visitors. Underlying the information provided on the Sovereign ESG Data Portal is the data framework, which incorporates criteria relevant to all 17 Sustainable Development Goals. Each is crucial for financial sector representatives to consider when assessing sovereign ESG risks, opportunities, and potential for impact. The framework is being used in the following ways:

- A major international asset manager considered the Sovereign ESG Data Framework in the development of its sovereign sustainability index.
- A global investment bank has integrated the Sovereign ESG Portal data into its sovereign analysis framework through an API (Application Programming Interface software).
- A global ESG index provider uses the Sovereign ESG Data Framework in its 'ESG scorecard for Emerging Markets (EM) sovereign credit,' which is used to assess the more than 70 EM sovereigns that make up the EM Bond Index.
- Barclays conducted a survey that found half of respondents (sovereign bond investors looking at ESG) were using data from the World Bank's Sovereign ESG Data Portal (see graph below).

**Figure 17. Responses to: “What data sources do you use for sovereign ESG data?”**



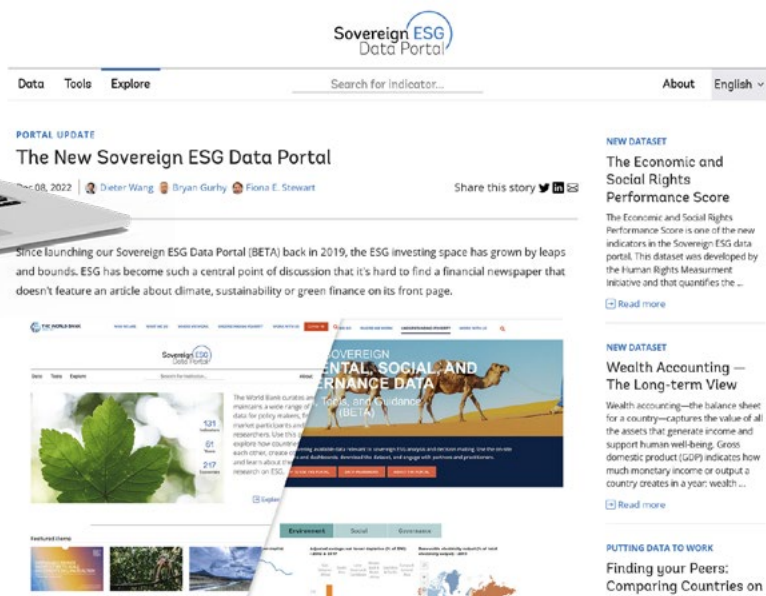
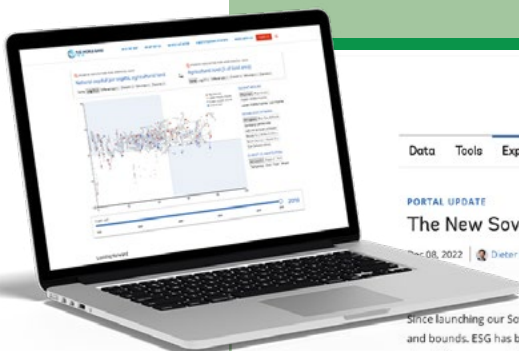
Respondents were able to choose multiple answers.  
Source: Barclays Research 2022 ESG investor survey.

### Box 10. World Bank Sovereign ESG Data Portal: Key Facts

The World Bank [Sovereign ESG Data Portal](#) was launched in October 2019. Since then, the portal has had 21,734 unique visitors. The portal is designed to help investors better align ESG analysis with key sustainable development policy indicators and analysis, as well as to increase data transparency and support private sector investments in emerging markets and developing countries.

The Sovereign ESG Data Framework comprises 17 themes selected to provide a balanced picture of policy performance and country conditions, given data availability. The initial set of indicators is based on both current market and World Bank usage of these criteria. The framework incorporates 67 indicators in total, covering all 17 Sustainable Development Goals. The dataset underlying the Portal, the [Sovereign ESG Data Set](#), is available on the World Bank Development Data Hub for all World Bank countries.

“Although investors have long been aware that ESG information is relevant—and in many cases critical for their investments—especially in developing countries, it has been a challenge for investors to make well-informed decisions due to lack of experience and data. This Sovereign ESG Data Portal will improve the quality, scope, transparency, and timeliness of publicly available ESG data, and gives investors and others the opportunity to benefit from research and field work experience. GPIF trusts this data portal will improve and enhance the quality of investment decisions of our asset managers.” Hiro Mizuno, Executive Managing Director and Chief Investment Officer, Government Pension Investment Fund (GPIF), Japan



## Research agenda: effects of sustainability on the financial sector

Five reports were published during FY22, spanning sustainable finance topics from wealth accounts and sovereign ESG to key performance indicators for sovereign sustainability-linked bonds. The findings of some of these papers were shared with members of the Coalition of Finance Ministers for Climate Action and the Network for Greening the Financial System. They were also disseminated through the UN Green Growth Knowledge Platform and the Emerging Markets Investors Alliance. A summary of the key areas of Pillar 3 research is below.

### Work to support the issuance of sovereign sustainability-linked bonds (SLBs)

Report: [Striking the Right Note: Key Performance Indicators for Sovereign Sustainability-Linked Bonds](#).

This report was used by Chile to design the KPI framework for the world's first sovereign SLB. Ongoing modeling work will measure the ambition of sovereign SLB KPIs (there is interest from financial institutions working on instrument design).

### Work on sovereign climate and nature reporting

Report: [Sovereign Climate and Nature Reporting: Proposal for a Risks and Opportunities Disclosure Framework](#).

The report's recommendations were presented in a [workshop](#) for the Coalition of Finance Ministers for Climate Action. The International Public Sector Accounting Standards Board (IPSASB) also took up the report's invitation to develop guidance for sovereign climate and nature reporting, published a consultation paper, [Advancing Public Sector Sustainability Reporting](#), and received significant support from its stakeholders to develop public sector sustainability reporting guidance. The

IFRS Foundation and Global Reporting Initiative have agreed to support IPSASB in this work. This work will further build on the work of the International Sustainability Standards Board (ISSB), for which the Pillar 3 team has also provided input.

### Work on sustainability and credit ratings

The recommendations of the report "[Credit Worthy: ESG Factors and Sovereign Credit Ratings](#)" were presented in a [workshop](#) to the Coalition of Finance Ministers for Climate Action. Additionally, the Pillar 3 team has had ongoing engagement with credit rating agencies (CRAs) on issues related to sustainability integration into ratings, including on the ingrained income bias (highlighted in a 2021 Pillar 3 report) and wealth accounting (drawing on CWON). These factors are starting to be reflected in the methodologies of the CRAs.

### Work on nature-related risks

In addition to support for the Coalition of Finance Ministers for Climate Action and the NGFS on this topic (described below), the Pillar 3 team continued to engage with and support the TNFD and Nature Action 100. Further, the Pillar 3 team supported country teams globally to assess innovative financing options to mobilize private investment for nature conservation, restoration, and sustainable use.



## Box 11. Research publications on sustainable finance prepared in FY22

### Publications

- [Chapter 13 in Changing Wealth of Nations 2021: Natural Allies: Wealth and Sovereign Environmental, Social, and Governance Frameworks](#)
- [Striking the Right Note: Key Performance Indicators for Sovereign Sustainability-Linked Bonds](#)
- [Geospatial ESG: The Emerging Application Of Geospatial Data For Gaining ‘Environmental’ Insights On The Asset, Corporate And Sovereign Level](#)
- [Credit Worthy: ESG Factors and Sovereign Credit Ratings](#)
- [Sovereign Climate and Nature Reporting: Proposal for a Risks and Opportunities Disclosure Framework](#)

### Blogs

- [Harnessing the power of capital markets to conserve and restore global biodiversity through ‘Natural Asset Companies’](#)
- [Virtue and a reward: Linking sustainable policies with sovereign debt](#)
- [Striking the right note: Key performance indicators for sovereign sustainability-linked bonds](#)
- [New pieces for the puzzle? Geospatial insights into droughts and employment in Brazil](#)
- [The elephant in the room: Bringing sustainable investment to Africa](#)
- [Aligning financial flows with sustainability goals: The case for sovereign climate and nature reporting](#)

## Finance assessments

Pillar 3 continues to provide input to the joint IMF-World Bank Financial Sector Assessment Program (FSAP) climate and nature risk and opportunity assessments. The Costa Rican FSAP is underway, and in it the team is looking closely at both nature risks and opportunities. A nature-risk exposure assessment for Malaysia was conducted together with Bank Negara Malaysia. The report is available here: [An Exploration of Nature-Related Financial Risks in Malaysia](#). The virtual launch event had high attendance, reaching capacity with 1,000 participants.

## Capacity building, disclosure, and engagements

In FY22, a number of activities took place under Pillar 3 related to capacity building and technical assistance with the implementation of sustainable finance measures (Box 12). Highlights include:

- The Pillar 3 team supported clients progressing on ESG/sustainability reporting (including in Cambodia, Thailand and Sub-Saharan Africa).

- Support to the Coalition of Finance Ministers for Climate Action, the Network for Greening the Financial System (NGFS), the Sustainable Banking Network and relevant contributions to their agenda development and knowledge products.
- The Pillar 3 team continued to support client countries on the implementation of [Toolkits for Policy makers to Green the Financial System](#) (published in May 2021). The toolkits presented in this report aim to help countries set clear and predictable strategies, increase the attractiveness of green investments, and better understand and manage climate-related and environmental risks. The report summarizes the key characteristics of each approach, provides actions to drive implementation, and references other publications that provide more detailed guidance.

## Box 12. Detailed activities related to capacity building and engagement

Specific activities carried out to provide capacity building and technical assistance on the implementation of sustainable finance measures:

- Contributions to international network agendas

Analytical contributions to the Coalition of Finance Ministers for Climate Action, the Network for Greening the Financial System (NGFS), and the Sustainable Banking Network.

- Contributed to workshops organized by the Coalition of Finance Ministers for Climate Action on topics related to mobilizing private finance, including a [workshop on natural capital accounting](#) where GPS work was presented, as well as the workshops on sovereign climate and nature reporting and integrating sustainability into credit ratings mentioned above.
- Contributed to the following Coalition papers:
  - [An Overview of Nature-Related Risks and Potential Policy Actions for Ministries of Finance: Bending The Curve of Nature Loss](#)
  - [An Analysis of Sustainable Finance Roadmaps: Charting The Path To Financial System Transformation](#)
- Contributed to NGFS Nature-Related Risks Taskforce strategy and implementation of work program.
- Presentation of GPS Pillar 3 research in more than 20 events globally to audiences of investors, government representatives, NGOs, academics, and World Bank staff. These events included:
  - “Rethinking Sovereign ESG” presentation to the European Central Bank
  - Barclays Emerging Markets Virtual Roundtable - “Emerging Markets and the triple threat of debt, nature and climate”
  - OECD Forum on Green Finance and Investment - “Transition Finance, pathways and climate alignment”
  - Columbia Business School Webinar - “Rethinking Modern Portfolio Theory: Addressing Market Risk Is Turning Investors into ESG Advocates”
  - Presentation of GPS work at the Ecological Civilization Forum hosted by the China Banking Association
  - World Bank internal event on eDNA technology for biodiversity monitoring and potential applications
  - World Bank internal event on biodiversity uplift credits





D

# Cross cutting work





This chapter presents progress on cross-cutting activities, including monitoring and evaluation, learning, knowledge management, and communications. These functions are closely interlinked and are key to fostering connections and synergies across pillars.

## Monitoring and evaluation

During this reporting period several activities have been carried out, including launching the Program Evaluation and Impact Assessment (PEIA), strengthening the procedures and tools for the collection of data on monitoring and learning, and adding and revising some indicators to reflect dialogue with the donors and emerging insights from the ongoing PEIA. In the following sections, specifics of these activities are discussed.

### Program Evaluation and Impact Assessment (PEIA)

As planned, during FY22 the PEIA was launched in close consultation with donors. A workshop to discuss the framing and design of the evaluation was organized in October 2021. The donors endorsed the approach and scope, and later the Terms of Reference (ToRs), which were finalized in early 2022. Procurement was then launched, resulting in the selection and contracting, in May 2022, of the consortium formed by DT Global (formerly IMC worldwide) and Trinomics. The PEIA will take place in 4 phases:

1. Inception
2. Baseline
3. Mid-term evaluation
4. Final evaluation

The objective of the inception phase was to finalize the methodology and workplan. It started with a series of technical meetings between the evaluation and GPS teams. An inception meeting with the donors, organized in June, provided an overview of the methodology and workplan and sought donor feedback. The inception

phase was completed with the submission of the Inception Report in July 2022. The baseline phase started shortly thereafter and will be completed in early 2023.

### Monitoring, Evaluation and Learning (MEL) system

GPS has activities at a global level and in over 20 countries. This poses several challenges in terms of technical coordination and systematic collection of information on progress. It also gives important opportunities for learning across countries and for creating synergies across global and national work within the program. During FY22 the program has strengthened its Monitoring, Evaluation and Learning (MEL) system in order to:

1. Consolidate the storage and management of monitoring data, including country level grants results.
2. Improve the collection of MEL data at regular intervals, the modality for its aggregation, and analysis at the program level in order to support program steering, reporting and communications.
3. Identify priority areas for strengthened collaboration between the GPS management team and the regional ENB teams (including cross-support in the delivery of GPS activities).
4. Facilitate technical collaboration, exchanges and learning among peers across regions.
5. Create an evidence base for development of knowledge products and program evaluations.
6. Support learning on what is working and what is not, thereby improving the quality and speed of program implementation.

The system is composed of a set of arrangements for coordination and data collection supported by simple online tools based on MS SharePoint available within the Bank IT infrastructure. The approach used to develop the system involved the design of a prototype, piloting with selected countries and

deployment across the program. The system is intended to evolve and adapt based on the practical experience that will emerge from its use.

Arrangements include a network of GPS Global Focal Points and regional TTLs, and the organization of regular check-ins during which progress is jointly discussed and opportunities for collaboration and knowledge sharing are identified. These check-ins are followed by the preparation of simple online reports that are stored within the MEL system and provide a synoptic overview of the situation to GPS management.

In addition to the tools dedicated to supporting technical coordination and progress monitoring within Pillar 2, two tools to be applied across the program are under development and will be deployed during FY23: (1) a tool to track beneficiaries of events, trainings and workshops, and (2) a tool to track knowledge products and interest generated (for preliminary results from this tool, see the section on Knowledge

management and communications below). These tools are also intended to support the systematic collection of the monitoring data required to track progress of additional indicators that will be integrated in the Results Framework as a result of dialogue with the donors and insights emerging from the PEIA.

During FY22, the MEL will be further developed and fine-tuned. The possibility of developing some simple dashboards will also be explored.

### Additions to the Results Framework and M&E plan update

In FY21, the Bank team prepared a comprehensive M&E plan. The plan was discussed at a workshop with GPS donors, who later endorsed the plan as revised on the basis of workshop outcomes.

During FY22, the need for some adjustments to the indicators included in the Results Framework contained in the M&E plan emerged. Following a closer analysis of the three impact indicators for country work, the GPS team has agreed

**Table 22. Revised formulation for three impacts indicators**

Original formulation in the M&E Plan	Revised formulation as agreed to with donors
Countries supported by the program that are compiling publicly accessible data on natural capital and ecosystem services (number)	Number of countries supported by the program that are producing publicly accessible data and/or analysis on natural capital and ecosystem services
Countries supported by the program that have used data on natural capital and ecosystem services in the design and implementation of development policies, programs and projects, including those co-financed by the World Bank (number)	Number of countries supported by the program that have used data and/or analysis on natural capital and ecosystem services in the design, and/or implementation, and/or evaluation of programs and projects co-financed by the World Bank or by other sources
Policy documents (at the national or subnational level), such as development plans, sectoral policies and strategies, bills, etc., informed by GPS-supported activities (number)	Number of policy (a) and engagement (b) documents informed by GPS-supported activities

Notes:

(a) Examples of policy documents:

(a1) Policies, strategies and action plans (including at the subnational level) such as development plans, sectoral and cross cutting policies and strategies, draft bills of law, regulations, decrees, etc.

(a2) Policies, strategies and action plans produced as part of countries' participation in international agreements/conventions/treaties, such as (but not limited to) the Convention on Biological Diversity (e.g., National Biodiversity Strategies and Action Plans - NBSAPs); the UN Framework Convention on Climate Change (e.g., Nationally Determined Contributions - NDCs, National Adaptation Plans - NAPs, REDD+ strategies and action plans, etc.), and the UN Convention to Combat Desertification.

(b) Examples of engagement documents:

These include documents produced by the World Bank (such as Climate Change Development Reports - CCDRs, Country Economic Memoranda - CEMs, Systematic Country Diagnostics - SCDs, Country Partnership Frameworks - CPFs, Country Environmental Analyses - CEAs, etc.) and other development partners which inform policy dialogue and provide a programmatic framework for partnerships with national or subnational governments.

with donors on improvements to their formulation as indicated in Table 22.. The revised formulation is being used in chapter E below (Results Framework) to report progress on these indicators starting from this report.

Following a request from Defra and in consultation with donors, it has also been agreed that the program will report for monitoring purposes (i.e., no targets will be set) the progress data required for three KPIs related to technical assistance

used at portfolio level by Defra as detailed in Table 23. Implications in terms of adjustments to the M&E plan will be further assessed by the Bank team and implemented during FY23. Data for these indicators will be made available starting from the next reporting period.

Furthermore, as part of the PEIA inception phase, the evaluation team has prepared a first mapping of the indicators included in the GPS results framework to the proxies of transformational change.

**Table 23. Additional monitoring data requirements for reporting on three Defra KPIs**

DEFRA KPI	Assessment of feasibility and comments
<a href="#">KPI 1 NUMBER OF COUNTRIES SUPPORTED BY ICF TECHNICAL ASSISTANCE</a>	<p><b>Feasible, with additional data collection.</b></p> <p>It is possible to report on the countries that have received technical assistance in the form of Target Technical Assistance (TTA) and TA in Core Implementing Countries (CIC). The TA are bank executed, with direct and targeted beneficiaries being public organizations and regulatory bodies (in a few cases).</p> <p>Information regarding the number of counties receiving TAs that will inform climate action is not currently monitored, but it could be collected starting in FY23.</p>
<a href="#">KPI2 - NUMBER OF INDIVIDUALS AND ORGANISATIONS SUPPORTED BY ICF TECHNICAL ASSISTANCE</a>	<p><b>Partially feasible, with additional data collection.</b></p> <p>Currently, two related indicators are monitored: the number of global training sessions on the use of NCA approaches in NBSAPs, NBS, NDCs and in projects; and the number of participants in trainings organized by the Africa CoP.</p> <p>Implementing this KPI will require monitoring the number of public sector entities that have benefited from TA at the country level as well as individuals supported through trainings and workshops under the three pillars of the program. Setting up the data collection procedures and arrangements will require some time, with data collection to start in FY23. For individuals supported, only the number disaggregated by country would be feasible (indicative estimates). Collecting additional details will be difficult and onerous.</p>
<a href="#">KPI 3 – NUMBER OF CLIMATE POLICIES INFORMED BY ICF TECHNICAL ASSISTANCE</a>	<p><b>Feasible, with additional data collection.</b></p> <p>Currently, the number of national or sub-national policies informed by GPS TA is tracked. Additional information related to what policies are climate relevant will have to be collected.</p>

Contextually, it has proposed several adjustments to the indicators of the GPS Results Framework. The World Bank team has reviewed the proposal and is assessing its feasibility.

Given the updates required and considering (as part of the PEIA baseline phase) work will be carried out on pillar level theories of change, it is expected that

the M&E plan will require an update to be finalized in consultation with the donors during the second half of FY23. Assuming the donors will approve the revised M&E plan during FY23, it is foreseen that the updated Results Framework will be used for FY23 reporting.





## Economic Valuation of Ecosystem Services to Strengthen Integrated Landscape Management in Selected Watersheds in Mexico

María del Pilar Salazar Vargas  
National Institute of Ecology and  
Climate Change (INECC)

### Learning

In GPS, learning is promoted at two levels: (1) facilitating “external” learning for stakeholders and beneficiaries at national, regional and global levels, and (2) learning “within” the program on technical aspects as well as on lessons for continuous improvement in the approach and implementation of the program.

Activities under the first strand include:

- Events, forums, seminars and trainings organized or co-organized by the program at the national and global level.
- Active participation in global events and contributions to events organized by program partners.
- Facilitation of Regional Communities of Practice and peer to peer learning.
- Development, maintenance and promotion of web sites and data portals.
- Production of materials to support learning such as documents, toolkits, presentations and videos.

Details on progress for these activities are provided under the relevant pillar chapters. In this section additional information is provided on the GPS seminar series.

For the second strand, regular team meetings are organized to bring together the global team as well as colleagues from the regional offices, depending on the topics discussed. As part of the Monitoring, Evaluation and Learning (MEL) system being operationalized (see the corresponding section above for more

details) for country level work under Pillar 2, regular quarterly check-ins and technical exchanges between the regional task teams and the global GPS focal point have been organized. Information on events planned at the regional level, success stories, knowledge products and collaborations are also captured in the system during the process.

The ongoing GPS Program Evaluation and Impact Assessment has already provided several opportunities to reflect on early lessons useful to program implementation. The preparation of the closeout report for WAVES Plus and identification of lessons learned planned for FY23 will also provide important insights to feed into GPS approach and implementation.

### GPS Seminar Series

The Global Program on Sustainability (GPS) Seminar Series shares the latest knowledge on how policy makers and the financial sector can integrate environmental sustainability considerations into decision making. Knowledge sharing and learning are central GPS goals, and these virtual sessions present an opportunity to highlight real life case studies, ongoing work and lessons learned from countries that are beginning to look beyond GDP and traditional financial metrics to account for environmental risks and opportunities.

The series was kick started in June 2022, with a seminar on “Using Ecosystem Services Valuation to Strengthen Integrated Landscape Management in

Mexico's Watersheds", which attracted over 163 participants. A [dedicated page](#) of the GPS website contains detailed information with the recording, presentation, list of speakers and blog. A rich pipeline of seminars has been planned for FY23, including sessions on:

- Strengthening the Capacity for Measuring and Valuing Natural Capital in Ghana
- Renewable Energy: Unaccounted Wealth of Nations
- Improving Natural Capital Management in Lao PDR
- Natural Capital Accounts in Zambia
- Developing Ecosystem Accounts to Inform Sustainable Land Use Management in Ghana
- Implementing Environmental Fiscal Reforms and Lessons Learned: Serbia, Kazakhstan and Indonesia Case Studies
- Integrating Natural Capital and Ecosystem Services in Climate Policies: The Experience of the Climate Change and Development Reports (CCDRs)
- The Changing Wealth of Nations: Expanding the Assessment of Renewable Natural Capital
- Integrating Natural Capital and Ecosystem Services in Forest Sector Policies in Nepal
- Mobilizing Finance for Nature: Progress, Challenges and Opportunities
- Using Natural Capital Approaches to Inform Natural Resource Management and Low-Carbon Climate-Resilient Policies and Programs in Kenya.

## Knowledge management and communications

The technical activities of the program, supported by internal learning, generate the contents and insights that are distilled in the form of knowledge products (KPs). Knowledge management within GPS

involves managing the production of KPs of various types (e.g., technical reports, software, blog posts, videos), their efficient storage and retrieval, their dissemination through communications and outreach and tracking and analyzing the effects (or impacts) in terms of attention and uptake generated. While technically challenging, this last step is particularly important for a knowledge centered program such as GPS: having a good understanding of the effects of the KPs is key to understanding the extent to which target audiences are being reached at global and national levels. This intelligence is also indispensable to guide targeting and dissemination as well as the design of future KPs.

During this reporting period, building on past efforts to store and make relevant KPs accessible in the WAVES web site, the team has started to develop a tool to organize information on the KP produced, including data on attention generated. The first results of this work are presented below.

### Publication and dissemination of knowledge products

A first version of the KP tracker tool has been developed and many of the KPs supported by both GPS and WAVES Plus have been inventoried. The tool is a simple meta-database. Each record includes essential information on the KP, how it has been funded, links with the GPS Results Framework and information on web publishing. A typology of KPs has been defined, with sub-categories for documents. For documents published on the [World Bank Open Knowledge Repository \(OKR\)](#) data on abstract yearly views and downloads are also collected. This information gives an indication of the interest generated by publications. For a subset of documents, additional attention metrics are stored in the tool, based on data from the Altmetric platform, including the Almetric attention score.<sup>4</sup>

<sup>4</sup> [Altmetrics](#) are metrics and qualitative data that are complementary to traditional, citation-based metrics. [The Altmetric attention score](#) is a weighted count of all the online attention elicited by individual research output. This includes mentions in public policy documents and references in Wikipedia, the mainstream news, social networks, blogs and more.

Still in the preliminary stage, this work has several limitations and will be further developed during FY23. Hereafter is a first overview of the KP inventoried, noting the following:

- The overview is limited to documents and at this stage does not include other types of KPs. The inventory is still incomplete, and it is likely that several documents are still missing from the list.
- Documents produced from 2018 to December 2022 are included. Whenever possible, a subset of data for FY22 is also included.
- Only the documents that have been produced with the support of either WAVES Plus or GPS are listed. Information related to co-funding is also included when available.
- More in-depth analysis and benchmarking of results, including contextual analysis (i.e., qualitative assessment of the uptake) for top ranking publications and geographic breakdown of views and downloads may be carried out in the future.

The preliminary results refer to a group of 87 KPs, the majority of which (74) include technical reports and other documents of various types (Table 24).

Over 90% of these documents are accessible online, with over half in the World Bank Open Knowledge Repository (OKR), thus with information on downloads and views. Eighty percent of the documents have been funded by WAVES and GPS (individually or as co-financiers); for the remaining 20%, WAVES Plus and GPS have co-funded other sponsors (Table 25).

**Table 24. Number of knowledge products supported by WAVES Plus and GPS since 2018**

Product Type	Product supported
<b>Document</b>	<b>74</b>
Technical report	57
World Bank core diagnostic and engagement document (CCDR, CEM, SCD, CEA, CPF)	9
Policy briefs	3
Book	3
Chapter in edited book	1
Journal article	1
<b>Presentation</b>	<b>6</b>
<b>Video</b>	<b>5</b>
<b>Dataset</b>	<b>1</b>
<b>Software/ Toolkit</b>	<b>1</b>
<b>Total</b>	<b>87</b>

**Table 25. Number of Documents published by funding source and publication site (since 2018)**

Number of Documents Published	Publishing			Grand Total
	A. Via World Bank OKR	B. Via other sites	C. Not online	
<b>By Funding Source</b>				
<b>A. GPS and/or WAVES Plus</b>	<b>30</b>	<b>23</b>	<b>6</b>	<b>59</b>
GPS	19	8	6	33
GPS and WAVES Plus	5	9		14
WAVES Plus	5	3		8
WAVES Plus and GPS	1	3		4
<b>B. GPS and/or WAVES Plus with other sources</b>	<b>7</b>	<b>8</b>		<b>15</b>
GPS and other sources	4	7		11
WAVES Plus and other sources	3	1		4
<b>Total</b>	<b>37</b>	<b>31</b>	<b>6</b>	<b>74</b>



**Table 26. Number of documents published by region (since 2018)**

Region	Number of documents	Countries covered by documents
East Asia & Pacific	16	Cambodia, Indonesia, Lao PDR, Malaysia, Vietnam
Europe & Central Asia	4	Kyrgyz Republic, Serbia, Uzbekistan
South Asia	3	India Pakistan
Sub-Saharan Africa	7	Chad, Ghana, Kenya, Rwanda, Uganda
World	44	
<b>Grand Total</b>	<b>74</b>	

**Table 27. Number of documents supported by WAVES Plus and GPS and related metrics of attention**

Product Group/ Pillar	Nr of products	Total OKR downloads	Total OKR views	Total views and downloads
<b>A. OKR Data available</b>	<b>31</b>	<b>246,152</b>	<b>310,452</b>	<b>556,604</b>
Pillar 1	7	215,859	264,598	480,457
Pillar 2	12	12,342	25,534	37,876
Pillar 3	12	17,951	20,320	38,271
<b>B. No OKR Data</b>	<b>58</b>	-	-	-
<b>Total</b>	<b>89</b>	<b>246,152</b>	<b>310,452</b>	<b>556,604</b>

Sixty percent of the documents are global in scope. The remaining 40% cover 15 individual countries. The majority of country documents refer to five countries in East Asia and the Pacific region (Table 26.).

The subset of 31 documents published on OKR have been downloaded or viewed over 0.5 million times. Most of this attention is related to the Changing Wealth of Nations report series and other documents produced under Pillar 1 of the program (Table 27.).

For some initial insights not only on the volume but also type of attention generated, a first analysis has been carried out on a subset of 20 documents for which the Almetric score is available on OKR. Out of those, 13 rank in the top 20% of the 270,000 comparator publications in the database, with 7 ranking in the top 5% and 3 in the top 1% (Table 28).

**Table 28. Number of selected publications supported by WAVES Plus and GPS by percentile class of the Almetric attention score**

Percentile class of Almetric score	Cumulative number of GPS/WAVES reports
Top 1%	<b>3</b>
Top 5%	7
Top 10%	9
Top 20%	13
Top 49%	15
<b>All reports</b>	<b>20</b>

Note: The data refers to the distribution of the attention score across the subset of 270,000 research outputs in the Almetric database tagged with the Field of Research (FoR) code 38 (economics).

Details on the individual top-ranking documents (those with over 5,000 views and downloads combined) are provided in Table 29. Flagship GPS publications such as CWON 2018, CWON 2021 and the Economic Case for Nature are in the top 1% or better of the attention score, relative to all publications in the database in the area of economics.

**Table 29. Top ranking documents  
(scoring more than 5,000 views and downloads combined)**

Ranking	Product Title	Country	Publication year	Document Type	Downloads	Views	Views and Downloads	Altmetric score	Top percentile (a)
1	The Changing Wealth of Nations 2018: Building a Sustainable Future	World	2018	Book	152,180	102,623	254,803	1,766	0.1%
2	The Changing Wealth of Nations 2021: Managing Assets for the Future	World	2021	Book	32,758	116,249	149,007	351	0.5%
3	Integrating Green and Gray: Creating Next Generation Infrastructure	World	2019	Technical report	13,094	22,047	35,141	178	1.1%
4	The Economic Case for Nature	World	2021	Book	14,090	16,503	30,593	178	1.1%
5	Ghana Country Climate and Development Report	Ghana	2022	World Bank core diagnostic and engagement document (CCDR, CEM, SCD, CEA, CPF)	1,919	12,377	14,296	229	0.8%
6	Unlocking Nature-Smart Development: An Approach Paper on Biodiversity and Ecosystem Services	World	2021	Policy briefs	2,871	5,915	8,786	28	7.9%
7	Pakistan Country Climate and Development Report	Pakistan	2022	Technical report	3,410	3,290	6,700	132	1.5%
8	Riding the Wave: Navigating the ESG Landscape for Sovereign Debt Managers	World	2020	Technical report	4,093	2,392	6,485	32	6.9%
9	Demystifying Sovereign ESG	World	2020	Technical report	3,912	2,480	6,392	18	12.4%
10	Rwanda Country Climate and Development Report	Rwanda	2022	World Bank core diagnostic and engagement document (CCDR, CEM, SCD, CEA, CPF)	2,256	4,095	6,351	140	1.4%
11	Pension Fund Investment in Forestry	World	2020	Technical report	3,918	1,838	5,756	11	20.0%

Note: (a) The figures refer to the placement of the Altmetric attention score, relative to the distribution of the score across all the publications in the Altmetric database with Field of Research (FoR) code 38 (economics).



First year Master's students at the World Bank supported African Center of Excellence.

Photo: Kelley Lynch / World Bank.

## Newsletter

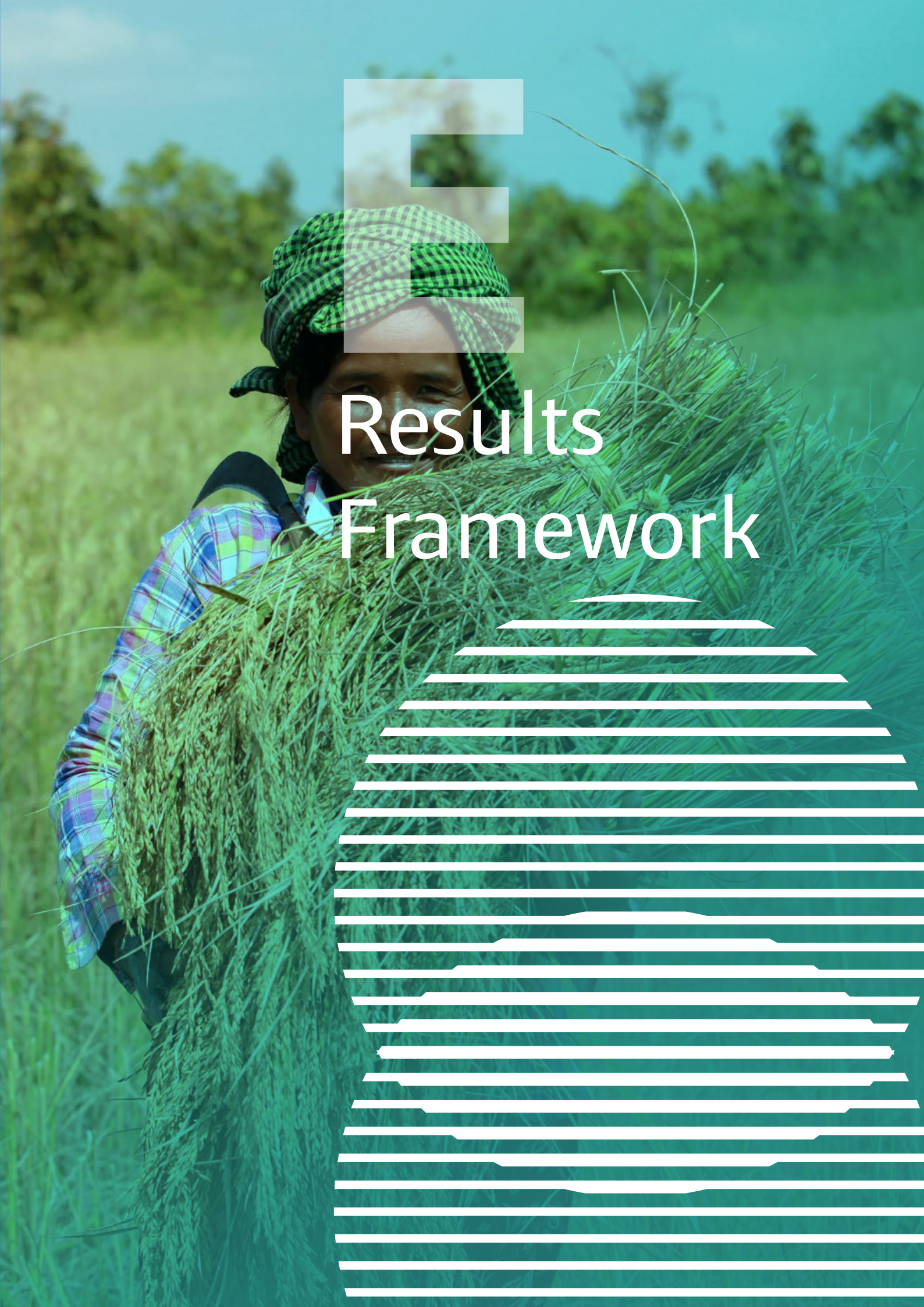
The GPS newsletter is an important communication channel to share program information, results, knowledge and other natural capital related news from around the global community. The audience includes current and potential partners, client countries, partners, stakeholders and WBG staff. In FY22, GPS published three newsletters reaching over 4,049 inboxes. These are accessible online via the links below.

- [September 2021](#)
- [December 2021](#)
- [April 2022](#)

## Website

The [GPS website](#) aims to be a platform for learning and sharing program information, results, knowledge, tools and data sets. The GPS team has been working to refresh the content, layout, graphic and multimedia assets to attract a wider audience and make content easier to find. In FY23, the website will be redesigned to feature the following main pages for navigation: Events, Knowledge Center, Data and an Interactive Map with profiles of GPS countries.





# Results Framework



This chapter summarizes progress being made on the achievement of results defined in the GPS and WAVES Plus results framework. By the end of FY22, both programs had made considerable progress in achieving their expected results, as measured by the average of the individual indicators' progress coefficients (Table 30).

WAVES Plus, which closed in December of 2022, had achieved an overall rate of progress of 98%. A final assessment of progress for WAVES Plus will be included in the program's close-out report, currently under preparation. GPS has an average progress coefficient of 61% overall, which is in line with expectations considering that the program is about mid-way through its implementation.

It should be noted that the baseline and target values for several GPS indicators were defined with respect to results achieved by WAVES or WAVES Plus. As part of the revision of the GPS M&E plan mentioned in the previous chapter, some of the baseline and target values will be reviewed to ensure that they continue to be relevant, taking into account the findings of the close-out report currently

underway. As a result, such values may be adjusted for inclusion in the revised version of the GPS M&E plan, which will be completed in the spring of 2023.

The rest of the tables in this chapter provide information on progress for the GPS results framework, including program-wide indicators (Table 31) and pillar-level indicators (Table 32, Table 33 and Table 34). Table 35 refers to progress on the WAVES Plus results framework.

**Table 30. Average progress in achieving GPS/WAVES Plus results**

Program / Pillar	Average progress coefficient (a)
GPS	<b>61%</b>
A. Program wide	68%
A1. Program wide (countries)	30%
A2. Program wide (sust. finance)	97%
B. Pillar level	
Pillar 1	36%
Pillar 2	60%
Pillar 3	72%
WAVES Plus	<b>98%</b>
Global work	100%
Country work	98%

Note: (a) For each program and pillar, the average progress coefficient is the unweighted average of the percent advancement of the corresponding indicators towards their targets. To exemplify: for an indicator with baseline of 0 and target of 10 that by June 2022 has achieved the value of 6, the corresponding progress coefficient will be 60%. If a pillar has three indicators with progress coefficients of 60%, 70% and 80%, the average progress coefficient for the Pillar will be 70%.



**Table 31. Progress on GPS impact indicators**

Indicators <sup>a</sup>	Baseline <sup>b</sup>	Value at end of FY22	Targets	Notes on results achieved as of June 2022 counting towards targets	Notes on other results <sup>c</sup>
1. Countries supported by the program that are producing publicly accessible data and/or analysis on natural capital and ecosystem services (number)	21	25	34	Data or analysis work completed in: - Chad (Country Environmental Analysis) - Ghana (impacts of climate on labor productivity) - Pakistan (NCA demonstration accounts) - Serbia (analysis of opportunities for environmental fiscal reform)	Lao PDR (Analysis of the use and value of charcoal and non-timber forest products.)
2. Countries supported by the program that have used data and/or analysis on natural capital and ecosystem services in the design, and/or implementation, and/or evaluation of programs and projects co-financed by the World Bank or by other sources (number)	21	25	39	World Bank projects informed in: - Bolivia (Innovation for Resilient Food Systems) - Chad (local development and adaptation project) - Kenya (Accelerating Reforms for an Inclusive and Resilient Recovery Development Policy Loan) - Serbia (Serbia Green Transition Development Policy Loan)	World Bank projects informed in: - Lao PDR (Lao Landscapes and Livelihoods Project) - Indonesia (Mangroves for Coastal Resilience Project) - Zambia (Transforming Landscapes for Resilience and Development in Zambia)
3. Policy and engagement documents informed by GPS-supported activities (number)	45	50	59	Documents informed in: Chad, Kazakhstan, Kenya, Pakistan, Serbia	Documents informed in Indonesia (2), Lao PDR (4)
4. Annual unique visitors on Sovereign ESG Data Portal (number)	0	21,734	25,000		
4B. Percent of return visitors to Sovereign ESG Data Portal	0	43%	40%		
5. Share of investors <sup>d</sup> considering nature in their sovereign bond investments (%)	20	55%	30%	Share of participants in the EMIA survey who answered in the positive to the question: "Do you consider biodiversity and ecosystem (nature) criteria in your sovereign bond investment decisions?"	
6. Share of investors using WB data in their sovereign bond investment (%) <sup>d</sup>	20	84%	30%	Based on answers to the EMIA survey question: "What data do you use to inform decisions on ESG investing in the sovereign debt asset class? (Select all that apply.)" Multiple answers were possible.	

a) The wording of Indicators 1, 2 and 3 has been revised compared to the previous version of the annual report, as discussed with the GPS donors in the spring of 2022.

b) The baseline and target values for indicators 1, 2 and 3 reflect results obtained with the WAVES program and a preliminary assessment of the results expected to be achieved by the WAVES Plus program. The latter will be updated based on the findings of the close out report currently underway. As a result, some of the baseline values may be updated for inclusion in the revised version of the GPS M&E plan, which will be completed in the spring of 2023.

c) Results referring to countries already supported by WAVES or WAVES Plus.

d) For indicator 5 and 6, investors are defined as those participating in the Emerging Markets Investors Alliance (EMIA) and participating in regular surveys administered by the Alliance.



**Table 32. GPS Pillar 1 result indicators**

Indicators	Baseline	Value at end of FY22	Targets	Notes on results achieved as of June 2022 counting towards targets(b)	Notes on other results
<b>A. Measuring sustainability</b>					
1. New or improved global datasets or data layers on natural capital or ecosystem services (number)	5	9	14	New data layers for mangroves and marine fisheries in wealth accounts. Improved wealth measures for agriculture and forest ecosystem services.	
2. Global data and knowledge platform on natural capital and ecosystem services establishment and operationalization	0	0	1		Consultations being held with key partners (such as UNSD, ARIES team, BC3, IDB, WRI, IFC) on the design of the platform
3. Technical reports on the economics of sustainability (number)	0	3	5	Reports published as part of the “Road to Kunming work”: (1) Mobilizing Private Finance for Nature (2) The Economic Case for Nature (3) Unlocking Nature-Smart Development: An Approach Paper on Biodiversity and Ecosystem Services (Work underway on Environmental Fiscal Reform)	
<b>B. Mainstreaming sustainability</b>					
4. Flagship publications (Changing Wealth of Nations - CWON) (number)	3	4	5	CWON 2021 published in the fall of 2021	
5. Tools and guidance notes to support the integration of natural capital in decision making (number)	0	2	4	Ecosystem Services Assessment Toolkit (ESAT) and Input notes to country CCDR teams on NC-CC linkages based on global datasets and CWON	
6. Training sessions on the use of NCA approaches in NBSAPs, NBS, NDCs and in projects (number)	0	1	7	Pilot training session delivered in Zambia	

**Table 33. GPS Pillar 2 result indicators**

Indicators	Baseline <sup>a</sup>	Value at end of FY22	Targets	Notes on results achieved as of June 2022 counting towards targets(b)	Notes on other results
2.1 Core Implementing Countries (CICs) supported by the program (number)	12	16	18	Implementation underway in Ghana, Ethiopia, Nepal and Türkiye	In Nigeria and Tunisia: preliminary scope of work defined, but to be confirmed with incoming governments following general elections
2.2 Targeted Technical Assistance (TTAs) supported by the program (number)	9	20	24	Implementation underway or completed in Bolivia, Chad, India, Indonesia, Kazakhstan, Kenya, Maldives, Pakistan, Rwanda, Serbia and Zambia	TTA support underway in Cambodia, Ghana, Kyrgyz Republic, Lao PDR, Nigeria (countries already supported by WAVES Plus)
2.3 Regional Communities of Practice (RCoPs) established and operational (number)	0	1	2	Africa	
2.4 Global knowledge events on policy uses of NCA supported by the project (number)	4	6	8	Expert workshop on NCA/ Green Recovery in June 2021; first instalment of the GPS Seminar series	

a) The baseline and target values reflect results obtained with the WAVES program and a preliminary assessment of the results expected by the WAVES Plus program. The latter will be updated based on the findings of the close out report currently underway. As a result, some of the baseline values may be updated, for inclusion in the revised version of the GPS M&E plan, which will be completed in the spring of 2023.

**Table 34. GPS Pillar 3 result indicators**

Indicators	Baseline	Value at end of FY22	Targets	Notes on results achieved as of June 2022 counting towards targets(b)	Notes on other results
<b>A. Sustainability information</b>					
A1. ESG Sovereign Data platform established and operational (Yes/No)	0	1	Yes: Interactive portal	The portal was launched in 2019.	
A2. Innovative financial products launched (number)	0	0	2		Products are under development but not yet launched. (SLBs / Natural Backed Securities)
<b>B. Research agenda</b>					
B3. An annual research program on sustainable finance is delivered (Yes/ No)	0	23	Yes: 3 publications (per year)	14 publications were released during FY22.	
<b>C. Finance assessments</b>					
C4. Countries conducting nature-related financial risk assessments for the financial sector (number)	0	2	8	The methodology continues to be developed. Assessment for Brazil and Malaysia completed.	
C5. Financial Sector Assessment Program (FSAP) Climate and Environmental Risks and Opportunities (CERO) methodology designed and delivered to the WB Board (number)	0	1	1	The methodology was delivered to the World Bank Board in June 2021.	


Indicators	Baseline	Value at end of FY22	Targets	Notes on results achieved as of June 2022 counting towards targets(b)	Notes on other results
<b>D. Capacity building, disclosure, engagements</b>					
D6. Toolkits for sustainable investment policy and regulation, implementation papers (number)	0	2	8	The toolkits paper was delivered in May 2021.	Guidance on greening development banks is underway.
D7. Contributions to sustainable finance country engagements (number)	0	4	4	Contributions to Thailand on ESG integration in the government pension fund, Colombia and Nepal on greening the financial system were completed. Regulations following benchmarking exercise for Cambodia currently being drafted. Benchmarking for Sub-Saharan Africa issuers and investors published (providing background for engagement with regional pension supervisors network by partner organization).	
D8. Sustainable finance events (organized and participated in) (number)	0	80	4 (per year)	GPS work has been presented at over 80 events and conferences globally since the launch of the program to a range of different stakeholders.	
D9. WB contributions to international network agendas (Network for Greening the Financial System / Coalition of Finance Ministers/ Sustainable Banking Network) (number)			4	GPS supported Pillar 3 contributions to three papers (one that included a data dashboard) published by NGFS in 2020 and 2021. GPS contributed to one paper published by the Coalition on Private Financial Sector Paris Alignment and to the SBN strategy to incorporate biodiversity into its work. Contribution to two Coalition papers in 2022 (nature risks & opportunities and sustainable finance roadmaps). Contribution to NGFS Nature risks Taskforce.	



**Table 35. WAVES Plus result indicators**

Indicators	Baseline	Value at end of FY22	Targets	Notes on results achieved as of June 2022
<b>A. Country Work</b>				
Countries supported by the project with at least two environment-related sectors in Natural Capital accounts in accordance with defined criteria and publicly accessible	0	5	4	Zambia, Uganda, Egypt, Morocco, Kyrgyz Republic
IR Indicator 1.7: Countries supported by the project with policy question(s) identified, methodologies chosen, and first results available (of which number of TTAs)	0	12	10	Lao PDR, Madagascar, Nepal, Nigeria and Ghana under the WACA program, Cambodia, Myanmar, Mexico, (TTAs); Uganda, Zambia, Egypt, Morocco, (CICs)
IR Indicator 2.3: Number of countries with targeted technical assistance	0	13	12	Cambodia, Lao PDR, Madagascar, Myanmar, Nepal, Uzbekistan, Vietnam, Nigeria and Ghana under the WACA regional program, Kyrgyz Republic, Morocco, Mexico, Uganda ( )
Direct project beneficiaries (the number of female beneficiaries)	0	1575	160	As part of the WAVES Plus close out report currently under preparation, progress on this indicator will be refined to align it with the originally intended outcome to support at least 160 direct beneficiaries from the key collaborating government institutions. As a result, the value in this report is unchanged with respect to the previous annual report.
Countries supported by the project with at least two policy analyses related to Natural Capital accounting made publicly accessible	0	7	10	Nepal, Zambia, Uganda, Egypt, Myanmar, Cambodia, Mexico
IR Indicator 1.1: Countries supported by the project with Natural Capital Accounts Steering Committee established	0	4	4	Zambia, Uganda, Morocco, Egypt
IR Indicator 1.2: Skilled staff in relevant government institutions participating in Natural Capital accounting and related policy analysis (the number of females who participated)	0	260	10	As part of the WAVES Plus close out report currently under preparation, progress on this indicator will be refined to align it with the originally intended outcome of having at least 10 staff with the skills necessary to oversee work on natural capital accounting in the program countries.
IR Indicator 1.2b: number of females in IR 1.2	0	72		
IR Indicator 1.3: Countries supported by the project with first preliminary draft Natural Capital accounts collected in their second year (of which x have ecosystem accounts)	0	5	4	Kyrgyz Republic, Uganda, Zambia, Egypt, Morocco
IR Indicator 1.4: Countries supported by the project with validation and publication of final Natural Capital accounts in their third year, and made publicly accessible (of which x have ecosystem accounts)	0	4	4	Zambia, Uganda, Egypt, Morocco, (though the latter only had 1.5 years of programs)
IR Indicator 1.5: Countries supported by the project with preparation phase finalized, including firm political commitment received, key entry point for policy making/policy questions, and accounts identified	0	12	4	Kyrgyz Republic, Lao PDR, Madagascar, Nepal, WACA program, Cambodia, Mexico, Myanmar, (TTAs); Uganda, Zambia, Egypt, Morocco, (CICs)

Indicators	Baseline	Value at end of FY22	Targets	Notes on results achieved as of June 2022
IR Indicator 1.6: Number of key policy documents such as development plans, sectoral policies and strategies, or bills that reference NCA or the accounts	0	7	4	The figures in brackets refer to the number of documents produced in each country: Nepal (2), Uganda (1), Zambia (3), Morocco (1)
<b>B. Regional work</b>				
IR indicator 2.1: Regional knowledge events on NCA supported by the project	0	30	3	Progress in FY22: <a href="#">Webinar/training events under Africa NCA CoP</a> : Ethiopia (July 29, 2021), East Africa (September 30, 2021), Ecosystem service valuation training (August 11-20 and November 23 - December 7, 2021)
IR Indicator 2.2: Regional knowledge products supported by the project made publicly accessible	0	6	3	Africa Regional Communities of practice: Two newsletter issues in FY22 <a href="#">Issue 003   October 2021</a> <a href="#">Issue 004   December 2021</a>
<b>C. Global work</b>				
IR Indicator 3.1: Global knowledge events on developing ecosystem accounts supported by the project	0	9	7	No global knowledge event during FY22
IR Indicator 3.2: Global knowledge products on developing ecosystem accounts made publicly accessible	0	7	7	Progress in FY22: - CWON 202 - <a href="#">CWON data visualization platform</a> - Technical report on valuation of renewable energy assets (to be uploaded soon as a technical report <a href="#">on the CWON website</a> ) - <a href="#">Draft Guidance Note WS.11 Treatment of Renewable Energy Resources as Assets</a> (part of the 2025 revision of the System of National Accounts - SNA)
IR Indicator 3.3: Global knowledge events on policy uses of NCA supported by the project	0	5	5	5th NCA Policy Forum
IR Indicator 3.4: Global knowledge products on policy uses of NCA made publicly accessible	0	6	5	5th NCA Policy Forum
IR Indicator 3.5: Hits on WAVES website (global and country pages)	93,255	152,000	149,208	
Newsletter subscribers	0	4,049	4,000	The GPS newsletter has now replaced the WAVES newsletter

A woman in a red shirt is holding a hose, with a large white letter 'F' overlaid on her face. The background is a blue sky with some greenery. The overall image has a blue tint.

F

# Financial Report

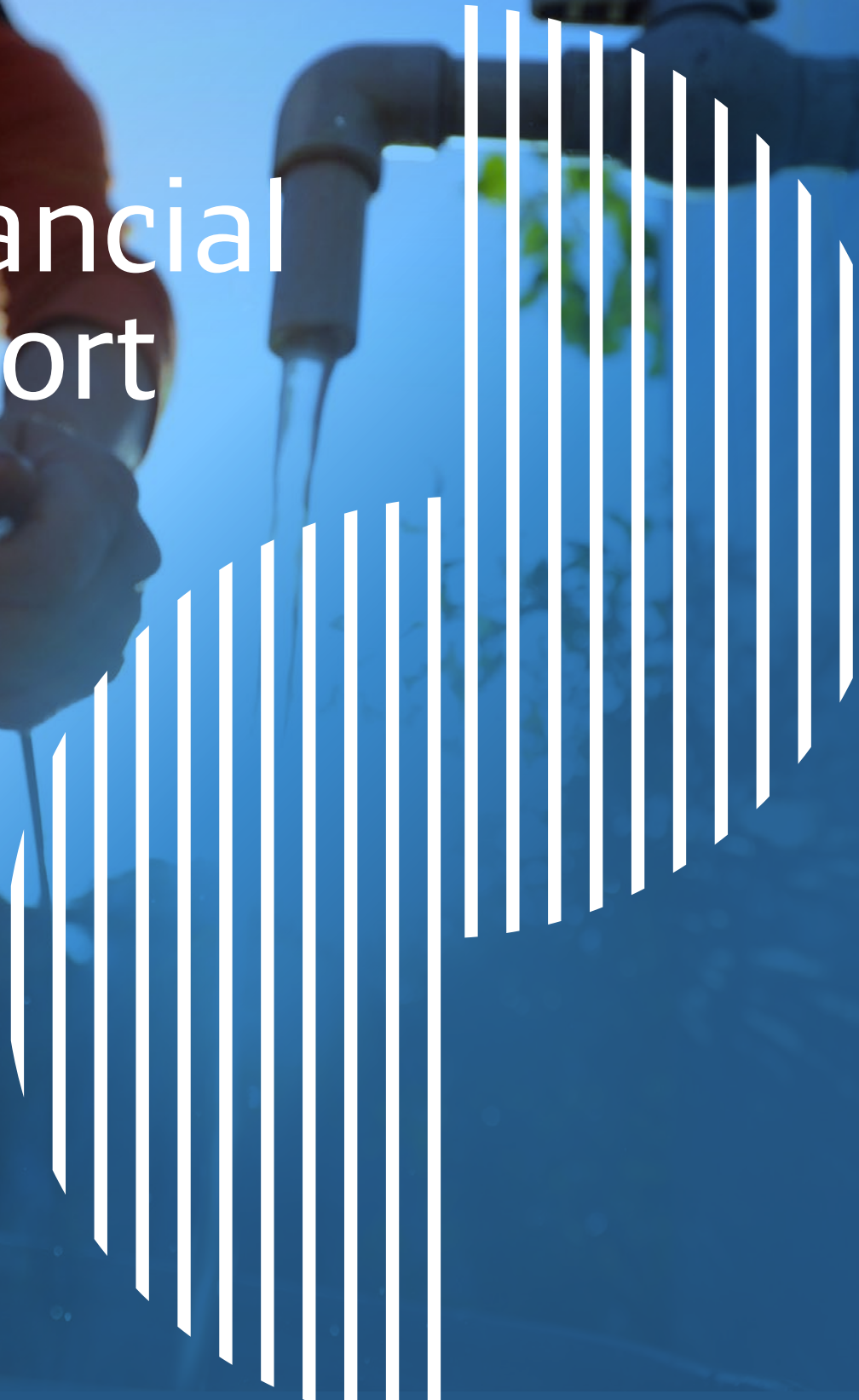




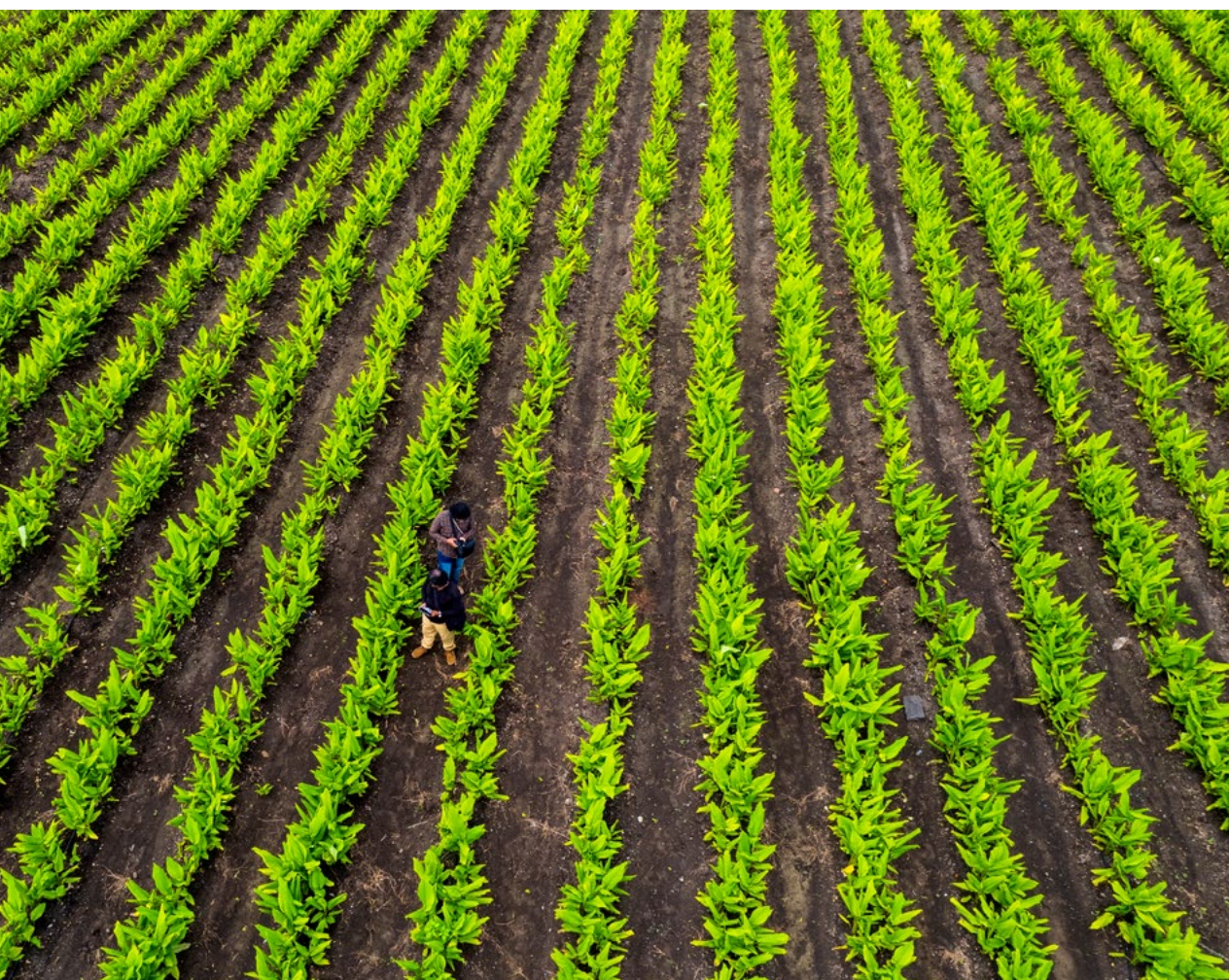
Table 36 provides a financial summary in dollar terms of WAVES Plus and GPS, including pledges, transfers, disbursements and commitments. Table 37 provides information on donors' pledges and transfers in the respective currencies.

The WAVES Plus Multi-donor Trust Fund was set up in November 2016. Total pledges (i.e., signed contributions) to WAVES Plus amount to \$10.1 million. By the end of fiscal year 2022 (end June 2022), \$9.16 million was disbursed. WAVES Plus closed in December 2022, following a two-year extension from the original closing date of December 2020, as agreed upon with donors.

The GPS Multi-Donor Trust Fund was set up at the beginning of 2019 with seed funds pledged by Germany's Federal Ministry for Economic Cooperation and Development (BMZ) in the amount of 2 million Euros. In the second half of 2020, the UK (DEFRA) contributed \$26.2 million

to GPS; Germany (BMZ) and Switzerland (SECO) made additional pledges for 2 million Euros and 3 million Swiss Francs, respectively. Total signed contributions under the GPS MDTF as of the end of fiscal year 2022 were \$33.9 million and paid-in contributions were \$31.9 million.

Table 38 and Table 39 show the financial status of the WAVES Plus and GPS Multi-Donor Trust Funds (MDTFs) as of June 30, 2022. Of the total donor pledges (signed contributions) for the two trust funds of \$44.0 million, an amount of \$41.9 million has been transferred (paid-in) to the World Bank as of the end of June 2022. By the end of FY22, the two trust funds disbursed or committed \$18.4 million (\$9.4 million for WAVES Plus and \$8.9 Million for GPS); in relation to the funds transferred to the World Bank, this amounts to 87% for WAVES Plus (which in June 2022 was nearing completion); and 28% in the case of GPS (which is expected to close at the end of 2025).



Aerial view of an Indian turmeric field

**Table 36. . Financial Summary (in US\$, as of June 30, 2022)**

	WAVES+ Trustee TF072708	GPS Trustee TF073257	Total
<b>A. Total donor pledges, per signed Administration Agreement</b>	<b>10,080,770</b>	<b>33,946,446</b>	<b>44,027,216</b>
United Kingdom – DFID	2,540,500	0	2,540,500
EU-Commission of the European Communities	3,040,270	0	3,040,270
Netherlands - Minister for Foreign Trade and Development Cooperation	4,500,000		4,500,000
Germany - Bundesministerium für Wirtschaftliche Zusammenarbeit (BMZ)		4,436,100	4,436,100
United Kingdom - Department for Environment, Food and Rural Affairs (DEFRA)		26,215,522	26,215,522
Swiss State Secretariat for Economic Affairs (SECO)		3,294,824	3,294,824
<b>B. Actual funds received from donors*</b>	<b>10,080,770</b>	<b>31,864,128</b>	<b>41,944,898</b>
United Kingdom - DFID	2,540,500		2,540,500
EU-Commission of the European Communities	3,040,270		3,040,270
Netherlands - Minister for Foreign Trade and Development Cooperation	4,500,000		4,500,000
Germany - Bundesministerium für Wirtschaftliche Zusammenarbeit (BMZ)		3,396,100	3,396,100
United Kingdom - Department for Environment, Food and Rural Affairs (DEFRA)		26,215,522	26,215,522
Swiss State Secretariat for Economic Affairs (SECO)		2,252,506	2,252,506
<b>C. Other adjustments</b>	<b>182,416</b>	<b>155,138</b>	<b>337,554</b>
Administrative fees to World Bank central units (-)			
Investment income (+)	182,416	155,138	337,554
<b>D. Total funds available (B+C)</b>	<b>10,263,186</b>	<b>32,019,266</b>	<b>42,282,452</b>
<b>E. Grants: Allocations</b>	<b>10,050,242</b>	<b>19,083,503</b>	<b>29,133,745</b>
WAVES+	10,103,011		10,103,011
GPS		19,083,503	19,083,503
<b>F. Grants: Disbursements &amp; Commitments</b>	<b>9,471,441</b>	<b>8,982,998</b>	<b>18,454,439</b>
Funds disbursed	9,161,339	7,668,693	16,830,032
Funds committed to be disbursed - BETFs **	310,102	1,314,305	1,624,407
Funds committed to be disbursed - RETFs			-
<b>G. Funds available (Trustee &amp; Grant level)</b>	<b>1,421,136</b>	<b>24,350,567</b>	<b>25,771,703</b>
at Grant and Subfund level after disbursements and commitments	1,102,077	4,189,228	5,291,305
at Trustee level after allocation to grants	319,059	20,161,339	20,480,398

\* Commitments data is as of September 12, 2022

Source: My Trust Fund database, November 10, 2021.

Note: DFID = Department for International Development; GIZ = Deutsche Gesellschaft Für Internationale Zusammenarbeit; BMZ = Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung

\*\* Will fluctuate with exchange rate changes.

Both programs support country-level and global activities, as well as cross-cutting work, including technical support, quality assurance, monitoring and evaluation, strategic communication, and program management work. The content of the country-specific work is defined in close collaboration with governments and other country stakeholders. Global work includes analytical and data activities applicable to as many countries as possible. The breakdown of spending across components is reported in Table 38 and Table 39 for WAVES Plus and GPS, respectively .

For WAVES Plus, the bulk of resources has been used to date for country/regional work (some 58 percent of total funds disbursed or committed). Global activities have been supported with a 37 percent share of the total; program management

and quality assurance activities accounted for some 5 percent of the total.

In the case of GPS, by the end of FY22, the share of country work was 24% of the total amount of resources committed or disbursed; program management and quality assurance activities accounted for about 10% of the total. Moving forward, it is expected that the share of country and regional work will further increase, in line with share envisaged in the 2021 workplan update (53% of the total resources programmed).

For both WAVES Plus and GPS, the overall structure of this year's financial report is consistent with previous reports, and includes the presentational improvements contained in the 2019 annual report (for example, footnotes to better specify the nature of some activities).

**Table 37. Donor Pledge and Contribution Summary (as of June 30, 2022)**

Donor	Pledges			Contribution made		Outstanding Contribution		Paid in %
	Currency	Amount in Contribution Currency	Amount in US\$*	Paid in Contribution Currency	Paid in US\$*	Unpaid in Contribution Currency	Unpaid in US\$*	
United Kingdom - Foreign, Commonwealth and Development Office	GBP	2,000,000	2,540,500	2,000,000	2,540,500	-	-	100%
Netherlands - Minister for Foreign Trade and Development Cooperation	USD	4,500,000	4,500,000	4,500,000	4,500,000	-	-	100%
EU-Commission of the European Communities	EUR	2,700,000	3,040,270	2,700,000	3,040,270	-	-	100%
<b>Subtotal WAVES+</b>			<b>10,080,77</b>		<b>10,080,770</b>			
Germany - Bundesministerium für Wirtschaftliche Zusammenarbeit	EUR	4,000,000	4,397,100	3,000,000	3,396,100	1,000,000	1,000,800	77%
UK - Department for Environment, Food and Rural Affairs (DEFRA)	USD	26,213,442	26,213,442	26,213,442	26,213,442	-	-	100%
UK - Department for Environment, Food and Rural Affairs (DEFRA)	GBP	1,586	2,0801	1,586.07	2,0801	-	-	100%
Swiss State Secretariat for Economic Affairs (SECO)	CHF	3,000,000	3,279,938	2,000,000	2,252,506	1,000,000	1,040,745	69%
<b>Subtotal GPS</b>			<b>33,892,561</b>		<b>31,864,128</b>			<b>94%</b>
<b>Total WAVES+ and GPS</b>			<b>43,973,331</b>		<b>41,944,898</b>			<b>95%</b>

Source: SAP and My Trust Fund database, September 9, 2022.

Note: DFID = Department for International Development; GIZ = Deutsche Gesellschaft für Internationale Zusammenarbeit; BMZ = Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung

\* Will fluctuate with exchange rate changes.



**Table 38. WAVES Plus Trust Fund: Summary of disbursements and commitments (in US\$, as of June 30, 2022)**

Activites	Allocation	Disbursed	Committed	Disbursed and Committed	Available balance
<b>Country work</b>					
WAVES+ CICs	2,566,786	2,432,348	35,155	2,467,503	99,283
Uganda Natural Capital Accounting Support	599,624	599,624	0	599,624	0
WAVES Egypt	469,509	469,509	0	469,509	0
WAVES Morocco	785,000	650,562	35,155	685,717	99,283
WAVES+ Zambia	712,653	712,653	0	712,653	0
WAVES+ TTA	2,121,756	1,948,888	112,690	2,061,578	60,178
Central Asia: Climate and Environment (CLIENT) Program-UZ WAVES	249,988	249,988	0	249,988	0
Enhancing capacity for integrating ecosystem accounting in landscape planning in Cambodia	110,475	110,475	0	110,475	0
Landscape Valuation for Decision Support in Lao PDR	40,000	21,075	8,040	29,115	10,885
LAUREL - Assessing Ecosystem Services at Landscape and National Levels for improved landscape management in Madagascar	242,267	242,267	0	242,267	0
Mexico CONECTA - Valuation of Ecosystem Services	110,000	108,780	0	108,780	1,220
Myanmar WAVES TTA: Forest Contribution to Resilient Coastal Economies in Myanmar	169,985	169,985	0	169,985	0
UG: Advancing the Uganda NCA program	225,000	72,278	104,650	176,928	48,072
Vietnam: Assessing the contribution of coastal assets to climate resilience	174,868	174,868	0	174,868	0
WAVES Nepal	249,999	249,999	0	249,999	0
WAVES+ Nepal	68,837	68,837	0	68,837	0
WAVES+ Lao PDR	121,311	121,311	0	121,311	0
WAVES+ Kyrgyz Republic	334,423	334,423	0	334,423	0
WAVES+ TTA Uruguay	24,602	24,602	0	24,602	0
Preliminary country work	181,990	181,990	0	181,990	0
<b>Subtotal country activities</b>	<b>4,870,532</b>	<b>4,563,227</b>	<b>147,845</b>	<b>4,711,072</b>	<b>159,460</b>
<b>Regional work</b>					
WAVES+ Regional Work	169,174	169,174	0	169,174	0
WACA Program (a)	351,003	351,003	0	351,003	0
Africa Regional NCA CoP	217,000	216,751	0	216,751	249
<b>Subtotal regional activities</b>	<b>737,176</b>	<b>736,928</b>	<b>0</b>	<b>736,928</b>	<b>249</b>
<b>Global work</b>					
WAVES+: Methodology and Global Engagement	267,995	267,995	0	267,995	0
WAVES+: Annual Partnership Forums (b)	935,317	935,317	0	935,317	0
WAVES+ Global Engagement and Strategic Communications (c)	712,655	710,291	49,160	759,451	-46,796
Changing Wealth of Nations (d)	968,154	968,154	0	968,154	0
Road to Kunming Work (e)	505,677	505,677	0	505,677	0
<b>Subtotal global activities</b>	<b>3,389,799</b>	<b>3,387,434</b>	<b>49,160</b>	<b>3,436,595</b>	<b>-46,796</b>
WAVES+ program management and administration and quality assurance	595,000	473,757	0	473,757	121,243
<b>Total</b>	<b>9,692,507</b>	<b>9,161,345</b>	<b>258,949</b>	<b>9,420,294</b>	<b>272,213</b>
Funds available in the Trustee and Subfund level but not yet allocated					251,857
Total funds available in the Trustee, Subfund and Grant level					

Source: SAP Trust Fund Report, December 2, 2022.

Notes: While the total amounts of resources allocated, disbursed and committed are accurate, the entries in the table related to individual trust funds are subject to change in the final version of the report to be produced after the meeting of the GPS Steering Committee. This is because in some cases, staff time has been reposted from one fund to another, to better reflect the time actually employed in individual activities.

There are minor differences in the commitment figures compared to Table 36, as the SAP Trust Fund Report was drawn on different dates (the commitments are always displayed as of the date the report is run, whereas "as of" dates can be specified for other variables).

CICs = core implementing countries; TTA = targeted technical assistance

(a) Sum of disbursing Trust Funds named "WAVES, Economics and WACA" and "WAVES+ TTA WACA"

(b) Sum of disbursing Trust Funds named "WAVES+ Policy Uses of NCA," "WAVES+: Annual Partnership Forums," and "Policy Forum 2022"

(c) Sum of disbursing Trust Funds named "WAVES+ Global engagement and strategic communications"

(d) Sum of disbursing Trust Funds named "CWON EcoServ," "CWON DriversOfChangeDecomp," "CWON 2.0 Developing global ecosystem accounts for carbon storage" and "CWON 2.0 Roadmap for pilot water account"

(e) Disbursing Trust Fund named "WAVES Plus Modeling of changes in land use, cropland values and Ecosystem Services"

**Table 39. GPS Trust Fund: Summary of disbursements and commitments (in US\$, as of June 30, 2022)**

Activites	Allocation	Disbursed	Committed	Disbursed and Committed	Available balance
<b>Pillar 1. Global work: Information (a)</b>					
1.1.1 Global data and knowledge platform on Natural Capital and Ecosystem Services: Road to Kunming Work	0	0	0	0	0
1.1.2 New or improved global data layers on Natural Capital or Ecosystem Services (a)	1,462,232	1,083,446	51,985	1,135,430	326,801
1.1.3 Technical reports on Ecosystem Services and/or the economics of sustainability (b)	633,099	609,389	0	609,389	23,710
1.2.1 Publications reporting and/or analyzing global or regional data on Natural Capital and/or Ecosystem Services (c)	513,040	319,353	88,251	407,604	105,436
1.2.2 Technical reports, tools and guidance notes on the use of NCA approaches for planning and policy purposes (e.g., SCDs, CPFs, NBSAPs, NBS, NDCs) and in projects (e.g., CBA, M&E, ESF) (d)	397,967	397,967	0	397,967	0
1.2.3 Training sessions on the use of NCA approaches in NBSAPs, NBS, NDCs and in projects	0	0	0	0	0
<b>Subtotal Pillar 1. Global work: Information</b>	<b>3,006,338</b>	<b>2,410,155</b>	<b>140,236</b>	<b>2,550,391</b>	<b>455,947</b>
<b>Pillar 2. Country-level work</b>					
<b>2.1 PILLAR 2 Coordination and quality assurance</b>	<b>600,000</b>	<b>334,507</b>	<b>12,844</b>	<b>347,351</b>	<b>252,649</b>
<b>2.1 Country option analysis under the debt climate and nature initiative</b>	<b>450,000</b>	<b>205,481</b>	<b>47,910</b>	<b>253,391</b>	<b>196,609</b>
2.1.1 Core Implementing Countries	465,000	81,490	172,917	254,408	210,592
CIC-Ghana-Institutionalizing NCA & Supporting Biodiversity Mgt	360,000	70,051	129,162	199,212	160,788
CIC-Turkey-Strengthening Natural Capital Accounting and Environmental Fiscal Reforms	30,000	11,440	0	11,440	18,560
Nepal - CIC Program Support	0	0	3,574	3,574	-3,574
Ethiopia GPS CIC	75,000	0	40,182	40,182	34,818
2.1.2 Targeted Technical Assistance	1,855,348	1,206,228	168,275	1,374,503	480,845
Bolivia: Green Recovery in the Chiquitania	75,000	31,464	6,750	38,214	36,786
Enhancing Natural Resources Management in Cambodia	112,500	4,712	15,297	20,009	92,491
Indonesia Peatland Modeling	174,504	174,504	0	174,504	0
Indonesia Coastal Natural Capital Accounts	92,138	92,138	0	92,138	0
Kyrgyz Republic: Policy Applications of NCA/VES	75,000	62,286	0	62,286	12,714
Landscape Valuation for Decision Support in Lao PDR	85,500	69,279	0	69,279	16,221
Natural Capital Accounting Just-in-Time Study in Pakistan	75,000	71,809	0	71,809	3,191
Strengthen Natural Capital Accounting (NCA) institutionalization and policy formulation in Rwanda	112,500	99,504	0	99,504	12,996
Technical assistance and Capacity building for Institutionalizing and mainstreaming of Natural Capital Accounts for policy application	225,000	144,923	15,036	159,959	65,041
Ukraine-Forest Sector Fiscal Policy & Options for Reform	112,500	10,918	1,575	12,493	100,007
Valuing the cost of environmental degradation in Chad	58,172	58,172	0	58,172	0
MSP – Kenya- Strengthening policy reforms for green recovery in the climate and renewable natural resource sectors in Kenya-Technical Assistance	112,500	85,818	20,976	106,794	5,706
Natural Capital Accounting Roadmap for Nigeria	45,466	45,466	0	45,466	0
MSP - Maldives - Towards a blue economy following the GRID framework in the Maldives	125,000	24,531	39,187	63,718	61,282
JIT – Serbia - Implementation Support for Green Recovery	75,000	74,889	0	74,889	111
JIT- Ghana - Vulnerability Assessment	74,569	74,569	0	74,569	0
Support in financing and delivering the circular economy in Almaty	75,000	74,958	0	74,958	42
MSG – India - Integrating natural capital and ecosystem services in India’s economic policy making	150,000	6,287	69,454	75,741	74,259
<b>2.2 Regional cooperation</b>	<b>273,000</b>	<b>8,854</b>	<b>41,806</b>	<b>50,660</b>	<b>222,340</b>
<b>2.3 Global engagement</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Subtotal Pillar 2</b>	<b>3,643,348</b>	<b>1,836,560</b>	<b>443,753</b>	<b>2,280,312</b>	<b>1,363,036</b>

Activites	Allocation	Disbursed	Committed	Disbursed and Committed	Available balance
<b>Pillar 3. Sustainable Finance</b>					
<b>3. Pillar 3 management and quality assurance (PMQA)</b>	<b>152,000</b>	<b>151,686</b>	<b>0</b>	<b>151,686</b>	<b>314</b>
3.1 Improved sustainability information for financial markets	546,750	505,930	16,800	522,730	24,020
3.2 Research agenda on effects of sustainability on the financial sector	586,491	555,259	15,570	570,829	15,662
3.3 Sustainable finance assessments	861,127	705,920	76,017	781,937	79,190
3.4 Capacity building, disclosure, and engagements	291,419	233,624	25,945	259,569	31,850
<b>Subtotal Pillar 3. Sustainable Finance activities</b>	<b>2,437,787</b>	<b>2,152,419</b>	<b>134,332</b>	<b>2,286,750</b>	<b>151,037</b>
<b>Pillar 4. GPS program management and administration and quality assurance</b>					
4.1. Strategic communications	281,675	264,489	11,275	275,764	6,686
4.2 Monitoring and evaluation	900,000	186,647	499,351	685,998	63,929
4.3. Program management and quality assurance	1,063,317	818,424	0	818,424	543,055
<b>Subtotal Pillar 4. GPS program management and administration and quality assurance</b>	<b>2,244,992</b>	<b>1,269,560</b>	<b>510,626</b>	<b>1,780,186</b>	<b>613,669</b>
<b>Total</b>	<b>11,332,465</b>	<b>7,668,693</b>	<b>1,228,946</b>	<b>8,897,640</b>	<b>2,434,825</b>
<b>Funds available in the Subfund level but not yet allocated</b>					<b>525,456</b>
<b>Total funds available in the Subfund and Grant level</b>			<b>2,960,281</b>		<b>2,960,281</b>

Source: Based on SAP Trust Fund Report, December 2, 2022.

Note: There are minor differences in the commitment figures compared to Table 36, as the SAP Trust Fund Report was drawn on different dates (the commitments are always displayed as of the date the report is run, whereas “as of” dates can be specified for other variables).

Legend: CICs = core implementing countries; TTA = targeted technical assistance; JIT = Just in Time small scale grant

(a) Sum of disbursing Trust Funds named “GPS Modeling of changes in land use, cropland values and ecosystem services,” “CWON DataViz & Publ,” and “CWON 2.0 Data”

(b) Sum of disbursing Trust Funds named “ECONOMIC MODELING AND FINANCE FOR BIODIVERSITY AND ECOSYSTEM SERVICES,” “Environmental Fiscal Reform,” and “NCA METHODOLOGY DEVELOPMENT AND IMPLEMENTATION GUIDANCE”

(c) Sum of disbursing Trust Funds named “CWON Data vis and publication” and “CWON 2.0 Analytics”

(d) Sum of disbursing Trust Funds named “ENVIRONMENTAL-ECONOMIC MODELING PLATFORM,” “GPS,” and “1-2 MODELING PLATFORM”



**Table 40. Disbursements by expense category (in US\$, as of June 30, 2022)**

	World Bank 12-month fiscal year (July-June)							Total	%
	FY22	FY21	FY20	FY19	FY18	FY17			
<b>WAVES Plus</b>									
Technical work (a)	468,168	2,884,795	2,476,284	1,223,544	437,082	414,869			
of which:									
Staff Costs	137,622	1,393,394	1,311,583	839,815	312,336	307,500	4,912,119	48%	
Consultant Fees	330,546	1,491,401	1,164,702	383,729	124,746	107,369	4,021,383	39%	
Travel expenses	18,673	3,028	189,414	260,757	133,994	150,255	780,962	8%	
Media Workshop	9,787	13,937	87,491	88,805	17,827	62,407	322,878	3%	
Contractual Services	7,234	5,939	30,369	16,077	3,600	335	65,604	1%	
Other (b)	7,817	38,415	102,641	2,300	4,041	1,455	88,543	1%	
<b>Subtotal WAVES Plus</b>	<b>511,679</b>	<b>2,946,115</b>	<b>2,886,199</b>	<b>1,591,483</b>	<b>596,544</b>	<b>629,321</b>	<b>10,191,489</b>	<b>100%</b>	
<b>GPS</b>									
Technical work (a)	3,778,126	2,805,772	754,272	-	-	-			
of which:									
Staff Costs	2,193,500	1,859,400	559,001	-	-	-	4,611,901	60%	
Consultant Fees	1,584,626	946,372	195,271	-	-	-	2,726,269	36%	
Travel expenses	62,594	0	30,550	-	-	-	93,144	1%	
Media Workshop	140,988	10,550	2,355	-	-	-	153,893	2%	
Contractual Services	19,396	0	-	-	-	-	19,396	0%	
Other (b)	47,278	1,757	55	-	-	-	49,090	1%	
<b>Subtotal GPS</b>	<b>4,048,382</b>	<b>2,818,079</b>	<b>787,232</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,653,693</b>	<b>100%</b>	
<b>Total WAVES Plus &amp; GPS</b>	<b>4,560,061</b>	<b>5,764,194</b>	<b>3,673,431</b>	<b>1,591,483</b>	<b>596,544</b>	<b>629,321</b>	<b>17,845,182</b>	<b>100%</b>	

Source: My Trust Fund database

Notes:

(a) including activities of program design, analysis, quality assurance, and so forth; carried out by staff in both headquarters and country offices.

(b) Translations, proofreading, transcriptions, courier/freight service, phone calls, printing, interpretation services, video conferencing, airfare rebate, equipment costs and ancillary expenses.

## Annex 1. Full list of country grants funded by WAVES Plus and GPS

Engagement class	Country	Nr of grants	Support type by Program	
			WAVES Plus	GPS
<b>A1. Initial engagement</b>		<b>13</b>		
	Bolivia	1		TTA
	Chad	1		TTA
	India	1		TTA
	Kazakhstan	1		TTA
	Kenya	1		TTA
	Maldives	1		TTA
	Mexico	1	TTA	
	Myanmar	1	TTA	
	Nigeria	1		TTA
	Pakistan	1		TTA
	Serbia	1		TTA
	Uzbekistan	1	TTA	
	Vietnam	1	TTA	
<b>A2. Foundational engagement</b>		<b>3</b>		
	Egypt	1	CIC	
	Ethiopia	1		CIC
	Türkiye	1		CIC
<b>B. Scaling up</b>		<b>5</b>		
	Ghana	2		CIC, TTA
	Nepal	3	TTA (2)	CIC
<b>C. Deepening</b>		<b>19</b>		
	Cambodia	3	TTA, TTA	TTA
	Indonesia	2		TTA (2)
	Kyrgyz Republic	2	TTA	TTA
	Lao People's Democratic Republic	3	TTA (2)	TTA
	Madagascar	1	TTA	
	Morocco	1	CIC	
	Rwanda	1		TTA
	Uganda	2	CIC, TTA	
	WACA program (a)	2	TTA (2)	
	Zambia	2	CIC	TTA
<b>TOTAL</b>		<b>40</b>	<b>19</b>	<b>21</b>

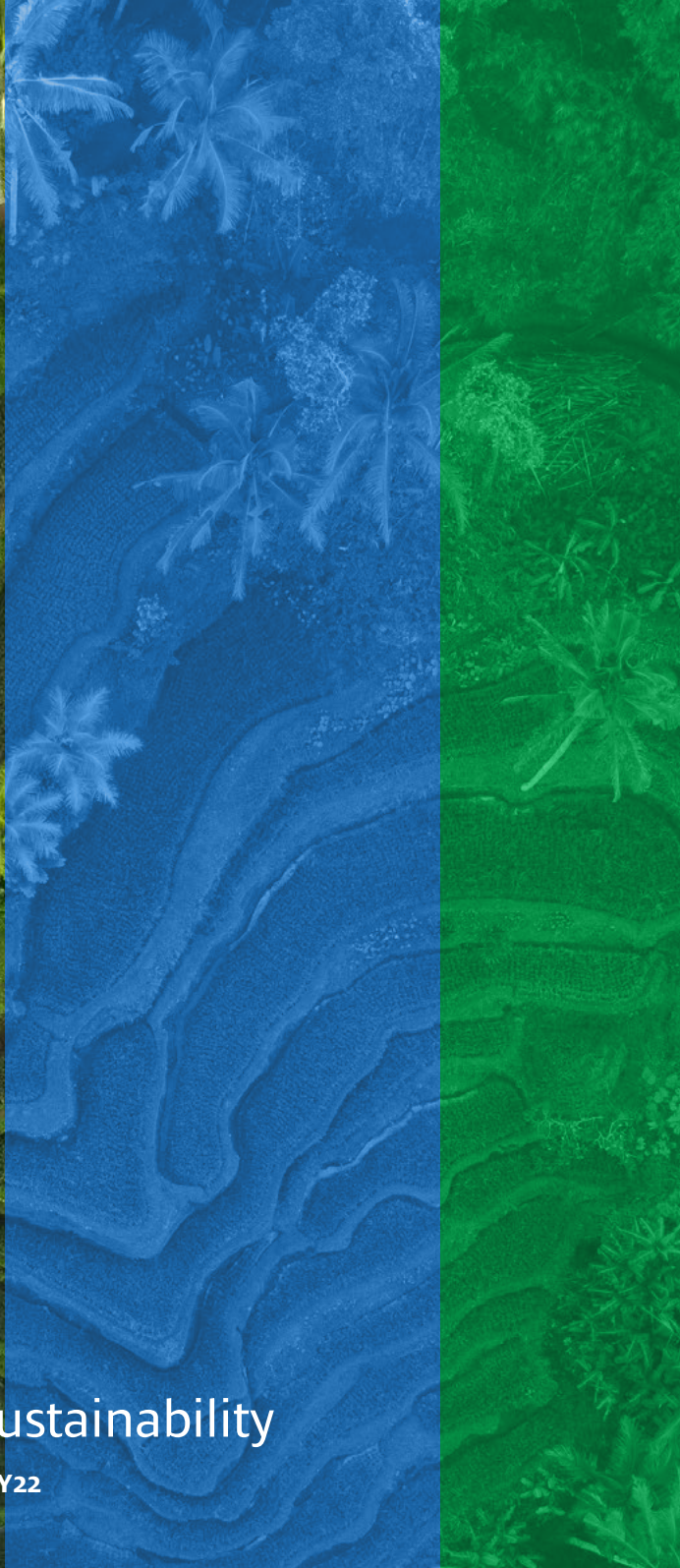
Note: (a) WACA refers to the [West Africa Coastal Areas Management program](#) which supports the strengthening of resilience in coastal communities and assets in 17 western African countries.











# Global Program on Sustainability

ANNUAL REPORT FY22

