Post-COVID Economic Recovery and Natural Capital:

Lessons from Brazil, France, India, and Uganda

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Economics FOR Nature

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About this paper

Our economies are fundamentally reliant upon the stability, health and resilience of nature: without clean water and air, healthy soils, and well-functioning ecosystems, our economies and our societies cannot function. But most economic theory and policymaking fails to account for this, with the result that we are destroying nature at an unprecedented rate.

The most high-profile economic decision-making currently relates to the COVID-19 pandemic. To develop sustainable and resilient economies, it is vital that policies that promote investment in nature are integrated into post-COVID economic recovery.

This analysis of post-COVID recovery measures shows that countries are largely missing the opportunity to invest in nature. A growing body of evidence shows that investments in nature can bring economic and social benefits and drive social inclusion and equity. Decision-making processes for public spending should include a rigorous appraisal of the intervention's impact on natural capital. Governments should build up a picture of how natural resources contribute to the economy, integrate natural capital into decision-making, and invest in nature-positive actions that benefit people and nature.

Green Economy Coalition

The Green Economy Coalition (GEC) is the world's largest alliance for green and fair economies. We work with our partners around the world , united by the Principles of A Green Economy, to give citizens a voice, hold governments to account, and drive real economic change.

www.greeneconomycoalition.org

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Executive Summary

Natural capital degradation is a pressing economic, social and environmental concern which remains outside most mainstream economic decision-making. Here, natural capital refers to nature and biodiversity, focusing on renewable resources and ecosystems, such as forests, water bodies and watersheds – and the biodiversity that they contain.

The most high-profile economic decision-making currently relates to the COVID pandemic, which has triggered significant shifts in expenditure levels and potentially expenditure types. This presents a major policy opportunity or risk, depending on whether decision-making is based on short-term economic recovery alone or also seeks to consider long-term sustainability, inequality and other systemic issues. For developing sustainable and resilient economies, it is vital that policies that promote sustainable investment in natural capital are integrated into post-COVID economic recovery.

Nature-based economies use natural capital approaches (knowledge, tools and methods) to better understand the reliance of economic activity on natural systems and integrate this thinking and data into a greener economic model of doing business, making policy, investing resources, reforming sectors and governing the economy. To date, progress on integrating natural capital into economic decision-making on the recovery has been slow, and little data is available on progress within developing countries.

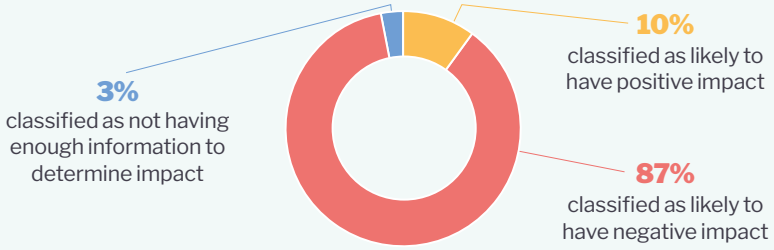
The work presented in this report has been funded by the MAVA Foundation through the Economics for Nature (E4N) programme and coordinated by the Green Economy Coalition (GEC). This report summarises key findings from four country case studies that looked at post-COVID recovery measures and their impact on natural capital. The case studies were: Brazil led by FAS, India led by TARA/Development Alternatives, Uganda led by ACODE, and France led by Vertigo Lab, with technical support provided by the International Institute for Environment and Development (IIED) and the GEC. IIED has led the production of this synthesis report, which aims to summarise key findings across the country case studies.

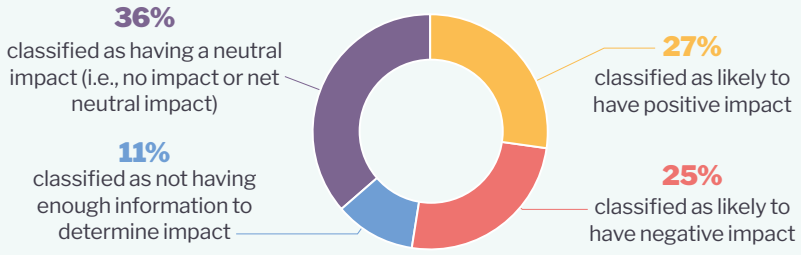
Each country analysis assessed measures in terms of their positive and negative (or adverse) impacts on natural capital. Positive measures to integrate natural capital into the pandemic recovery include: budgetary, fiscal, monetary and trade policies, as relevant (such as expenditure policies that support afforestation). Negative measures include budgetary, fiscal, monetary and trade measures which undermine natural capital (such as fiscal and trade incentives for forestry clearance). Each identified measure was classified as having either a strong or low positive impact, neutral impact, strong or low negative impact, or as unable to assess the impact. Ultimately, the analysis has sought to contrast nature-friendly 'positive impact' recovery investments and policies as against 'negative impact' recovery investments and policies, those that are harmful or damaging to nature, to draw lessons for within and beyond each country.

Thus, the added value of this study over the many other studies presently available is that it goes beyond assessing broad policies and looks into the details of actual budget decisions, reviewing how much money is being spent on different priorities, assessing what kinds of investments are likely to support or undermine natural capital in the study countries, and seeking to understand enabling conditions for investing in supportive measures.

Overall, for the pandemic recovery measures identified in each country, the analysis has found the following impacts (Table 1):

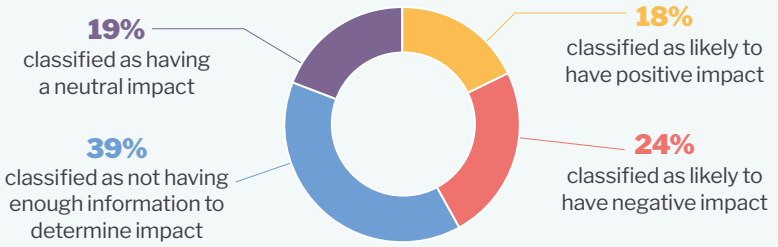
Table 1: Overview of impacts

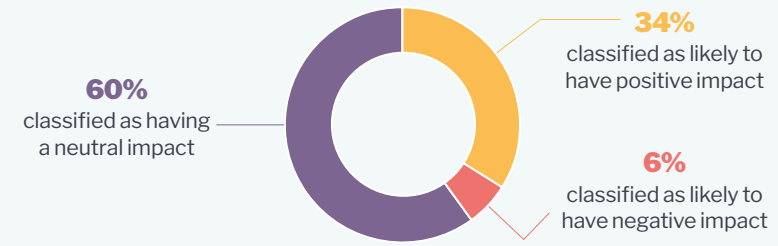
Brazil[1]	**Likely largely negative impact**
Of the budget of total pandemic economic stimulus measures in the Legal Amazon region that was reviewed:	
Largest measure likely to have a positive impact on natural capital	Representing 92% of all positive measures, rural credit and subsidies under two programmes: Pronaf, which finances family farmers, and a Low Carbon Agriculture Program, which finances productive systems of no-till farming, recovery of degraded pastures, crop-livestock-forest integration, planted forests, and other sustainable farming methods.
Largest measure likely to have a negative impact on natural capital	Representing over 99% of all negative measures, subsidies and rural credits for the agriculture sector which do not promote sustainable practices are considered as having negative impact because of the pressure these practices put on forest services, forest cover, and on biodiversity.
Evidence of change from business-as-usual	The recovery measures largely indicate support to business-as-usual practices. It has led the governors of the states of the Legal Amazon to launch a Green Recovery Plan (PRV) to promote a shift towards protecting the natural capital resources, though this plan is not yet financed.

France[2]	**Likely weakly positive impact**
Of the budget of total pandemic economic stimulus measures that was reviewed:	
Largest measure likely to have a positive impact on natural capital	The largest measure classified as positive (representing 18% of positive measures) is investment in the trains and rail network, which support the green transition and will thus indirectly support natural capital.
Largest measure likely to have a negative impact on natural capital	Representing 85% of negative measures, reducing company taxes intends to support French companies and industries' competitiveness. These industries largely represent negative natural capital practices.
Evidence of change from business-as-usual	The plan sought to address recent political conflicts and social tensions, business sector priorities, and support green transition measures in equal amounts. The support to green transition measures represents some evidence of change.

1 See the Brazil country report in Portuguese at: Recuperação Verde na Amazônia - FAS Amazônia (fas-amazonia.org) and Fact Sheet Recuperação Verde na Amazônia - FAS Amazônia (fas-amazonia.org). The English version is forthcoming.

2 See the France country report in English here: Integrating Natural Capital into Government Post-COVID Economic Decision-Making - Vertigo Lab and in French here: Évaluation des impacts en France du Plan de relance sur la biodiversité et le capital naturel - Vertigo Lab

India[3]	Likely mixed impact
Of the budget of total pandemic economic stimulus measures that was reviewed:	
Largest measure likely to have a positive impact on natural capital	Representing 38% of positive measures, the Agriculture Investment Fund will provide agricultural cooperative societies, farmer producer organisations (FPOs), and start-ups with funds to encourage the development of farm-gate infrastructure (where produce is sold directly to consumers).
Largest measure likely to have a negative impact on natural capital	Representing 57% of negative measures, fertiliser subsidies will have negative impacts on natural capital. The remaining amount is represented by infrastructure development for coal mining.
Evidence of change from business-as-usual	Natural capital was not strongly prioritised in the recovery package. The subsequent Union Budget showed reductions in capital expenditures for natural capital related projects linked to the recovery package, but showed a much larger proportion of investment in natural capital positive interventions.

Uganda[4]	Likely positive impact
Of the budget of total pandemic economic stimulus measures that was reviewed:	
Largest measure likely to have a positive impact on natural capital	Representing 9% of all positive measures, the largest actions were in the water and environment sector. For example, a commitment to increase land area covered by wetlands from 8.9% to 15%, and to increase land area covered by forests from 9.1% to 15%.
Largest measure likely to have a negative impact on natural capital	Measures in the agriculture sector identified as having a negative impact included increased in the number of hectares of land bush clearance, and prioritisation of crops such as sugarcane despite their previous negative environmental impacts.
Evidence of change from business-as-usual	The 2021/22 budget was assessed as likely to have 10% less of a positive impact on natural capital that the 2020/21 budget, indicating that despite indications of leadership in supporting natural capital in the 2020/21 budget and the national policy environment, the areas of industrialisation and petroleum development were being prioritised in the economic recovery.

3 See the India country report here: IIED natural capital report DA 2021 (devalt.org)
4 See the Uganda country report here: PRS105.pdf (acode-u.org)

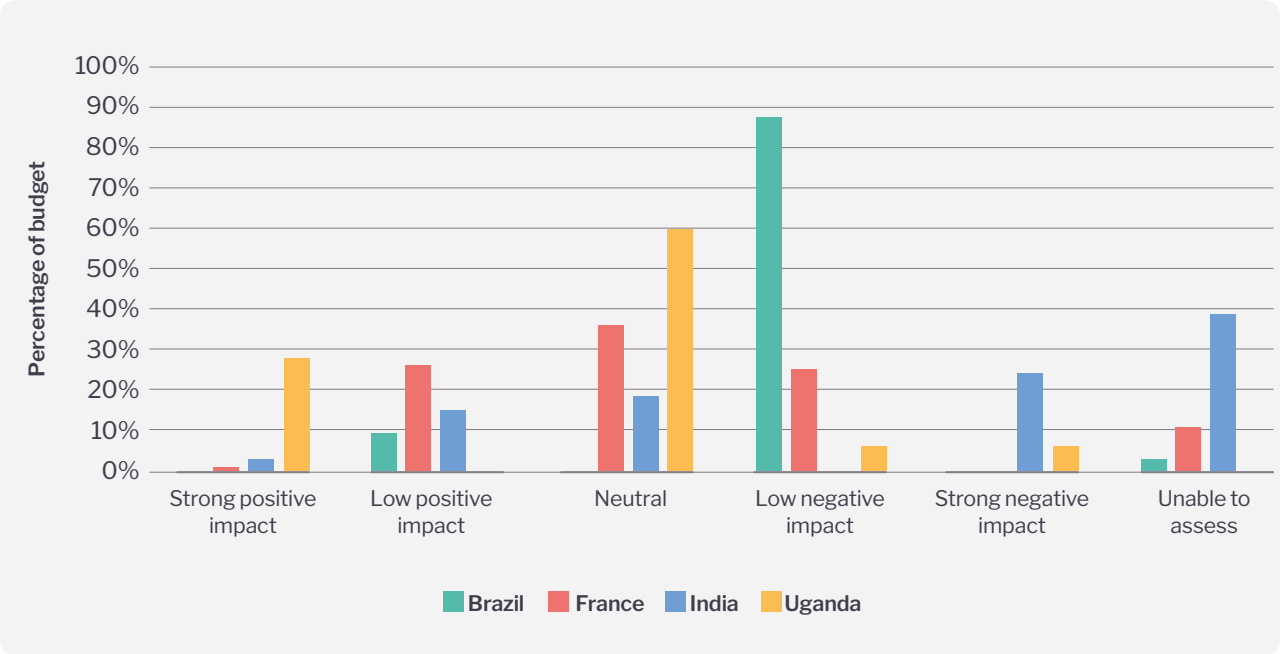


Figure 1: Potential impact on natural capital from the pandemic economic stimulus budgets

This study finds the following key lessons:

- Recovery plans in each country are missing the opportunity to invest in nature and integrate natural capital into decision-making, despite international and country-specific evidence that investments in natural capital can bring economic and social benefits, including driving social inclusion and growth opportunities.
- Dependence on natural capital means that recovery activities that do not support natural capital will not be economically, environmentally or socially effective in the medium or long term.
- There is a clear need for coherent national strategies that can underpin natural capital positive decision-making. This requires alignment across actors, policies, and sectors.
- In many cases, the impact of an intervention could be made more positive by introducing regulations or standards to guide implementation.
- Bailouts and subsidies that support business-as-usual businesses and practices without environmental conditionality undermine natural capital.
- The impact of measures is country-specific, depending on the nature of the natural capital and environment, existing social and economic structures and other location-specific factors. Hence, principles may be more useful than prescriptive interventions in guiding what types of measures and policies will support natural capital across countries.
- There are still knowledge gaps on the impacts that many measures will have on natural capital, and this is a key barrier in improving practices towards supporting natural capital. Better monitoring, evaluation and learning can help improve understanding and practice.
- Some of the allocations announced in the recovery plans will not track to what is eventually released and spent. Greater budget transparency, public participation and improved monitoring, evaluation and feedback systems can help bring better accountability to ongoing changes.

Photo: Rodolfo Pongelupe

Drawing from these country experiences and the cross-country learnings, this study presents the following recommendations:

- Governments should take the opportunity of building the pandemic recovery stimulus packages to invest in natural capital and to integrate natural capital into decision-making. These investments bring long-term economic benefits and growth opportunities and drive social inclusion and equity.
- Governments should, as a minimum, take steps to mitigate the negative impact on natural capital of decisions based on business-as-usual approaches, including by introducing and applying regulations on environmental conditionality for industries and companies that are supported.
- Governments should more actively seek to align their support to activities that strengthen natural capital in a transformative manner.
- Governments should continuously monitor the implementation of announced measures for their impacts on natural capital and mitigate negative impacts where possible.
- Governments should strengthen their natural capital accounting. This can help build up a picture of how natural resources contribute to the economy and how the economy impacts the country's natural resources.
- Decision-making processes for public spending should include a rigorous appraisal of the intervention's impact on natural capital. Standards should be set regarding the maximum level of negative impact on the environment and enforcements around monitoring and mitigating anticipated and unanticipated negative impacts.
- Methodologies that assess the impact of spending on natural capital should continue to be implemented and refined to facilitate transparency and robust decision-making.
- National civil society organisations have an important role to play in calling for transparency and holding their national governments to account. National civil society can also highlight local actors' evidence of the impacts of damaging policies in advocating for these changes in national policy.

Introduction

Without clean water, productive soils, pollination, and many services natural capital provides, our economies and societies cannot function. Natural capital is declining globally at rates unprecedented in human history with grave impacts on people around the world. However, currently, our economies are blind to their dependence on natural capital and, to some extent, their impact on it.

The COVID-19 pandemic, which has arisen from our lack of regard for the natural world[5], has been a brutal blow globally and exposed the structural inequalities and lack of resilience in all economies, including low-income developing countries. Post-COVID-19 pandemic economic recovery strategies, active in many countries, are high-profile, generally well-resourced, and anticipate significant reforms. In an effort to safeguard lives and increase economic growth, stimulus measures present a huge opportunity to prioritise for the first time safeguarding natural capital, investing in ecosystem resilience, and putting in place mechanisms for integrating natural capital into economic decision making.

The work presented in this report has been funded by the Economics for Nature (E4N) Programme. E4N is a six-year work programme led by the Green Economy Coalition (GEC) and its partners, the Capitals Coalition, Green Growth Knowledge Partnership and WWF France. The programme supports the development of economic and policy processes to internalise the many values of nature in decision-making - please see Natural Capital for Governments: What, Why and How (2018), the Green Economy Tracker (2020) and the reports produced by the GGKP Natural Capital Working Group on green growth and natural capital (2020). The E4N programme - funded by MAVA Foundation - started in 2017 and will run until 2022.

The GEC coordinated the work, with technical guidance from IIED. It has involved country case studies of Brazil led by FAS, France led by Vertigo Lab, India led by TARA/Development Alternatives, and Uganda led by ACODE. The work has involved reviewing pandemic recovery stimulus measures and assessing the likely impacts on natural capital. In considering the measures that are likely to have a positive or negative impact, the study seeks to highlight the implications of natural capital degradation or benefits from supporting natural capital in each country, highlighting the potential for more or fewer jobs, stronger or weaker economic growth, increased or decreased social inclusion, and other aspects, particularly in considering longer-term impacts of policies. By doing so, the study seeks to understand economic decision-making more deeply in the context of integrating natural capital and how this could be tangibly strengthened across different contexts.

5 Exclusion of natural capital from economic decision-making has been endemic for years. For example, see https://www.nature.com/articles/505283a and https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69195/pb13390-economic-growth-100305.pdf

Photo: Linus Follert via Flickr, CC BY-SA 2.0

Governments around the world have already rolled out trillions in post-COVID recovery stimuli, with more estimated to be spent for long-term recovery. In the four study countries of France, Brazil, Uganda and India, an approximate combined $1 trillion had already been allocated by mid-2021[6]. According to a recent World Economic Forum (WEF) report, prioritising nature and integrating natural capital in economic and policy decision-making could create 395 million jobs and over $10 trillion in annual business value by 2030. However, to date, few countries have yet taken these steps to integrate a focus on natural capital and biodiversity.

This study aims to draw lessons from across the four study countries to highlight key lessons and recommendations for policymakers across the world. These lessons will be important for those working in the ministries of finance, economy and planning across governments as well as those working in ministries related to natural resources. We hope that the methodology and lessons will also be useful for civil society groups across countries who want to replicate such analysis in their countries and hold their governments to account; to international institutions that provide economic support to countries, such as the World Bank and IMF; and to those working on supporting nature and natural capital more broadly.

Section 2 provides more background and context on the case for integrating natural capital into decision-making. Section 3 presents the objectives and methodology of the study, and a summary of the country findings is presented in Section 4. Cross-country comparisons and learnings are presented in Section 5, and recommendations are presented in Section 6.

6 See https://greeneconomytracker.org/policies/green-covid-19-recovery and https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Background and Context

Growing scientific, policy, civil society, and business concern for natural capital

In the following, several landmark studies are highlighted as part of a growing literature on natural capital, which recognises its importance, highlights problems of its exploitation, and discusses potential approaches to address the issues. In addition to these studies, literature and materials relevant to various groups has been growing – such as:

- the Millennium Ecosystem Assessment (MA) which synthesised existing research to make it available in a form relevant to current policy questions;
- the Inter-governmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)[7], which was established in 2012 as an independent body, inspired by the Intergovernmental Panel on Climate Change (IPCC) and the MA, and also aims to strengthen the science-policy interface for governments;
- the growing integration of nature into public media, such as through the popularity of David Attenborough documentaries, and of advocacy and knowledge sharing through Extinction Rebellion (XR) and other civil society protests;
- the work of the Natural Capitals Coalition, a collaboration between leading organisations in research, science, academia, business, advisory, membership, accountancy, reporting, standard setting, finance, investment, policy, government, conservation and civil society – for example the Capitals Coalition led the development of the Natural Capital Protocol, launched in July 2016, which is a standardised framework for businesses to identify, measure and value their direct and indirect impacts and dependencies on natural capital;
- and many other developments among these key stakeholder groups.

The Economics of Biodiversity: The Dasgupta Review[8], released in February 2021, presented the findings of a review commissioned by the UK Treasury in 2019. Its central message was that global demands on nature far exceed the global carrying capacity, putting biodiversity under huge pressure and society at 'extreme risk'. Exploring the relationship between biodiversity, nature and economics, the study argued that natural capital has long been ignored by economic thought, and this is enabling the large-scale destruction of nature – the stock of natural capital per person has declined by nearly 40% between 1992 and 2014. The study concluded that the world needs to fundamentally overhaul how society measures economic success if it is to stem the rapid decline of biodiversity that threatens civilisation itself.

In June 2021, the World Bank released the report *The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways*[9]. This paper recognises how economies rely on nature for services, that these are largely underpriced, and lays out the economic rationale for investing in nature while also highlighting the costs of inaction. The study uses ecosystem-economy modelling to present policy scenarios available to reduce the impact of nature loss on economies, encouraging a move towards 'nature-smart' decision-making. It finds

7 https://www.ipbes.net/sites/default/files/22012018_ipbes_assessment_guide_summary.pdf
8 https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review
9 https://openknowledge.worldbank.org/handle/10986/35882

that protecting nature could avert global economic losses of $2.7 trillion per year. In October 2020, the World Bank released the *Changing Wealth of Nations 2021* report[10], which tracks the wealth of 146 countries by measuring the economic value of renewable natural capital, non-renewable natural capital, human capital, produced capital and net foreign assets. The report finds that countries are depleting their resources for short-term gains, putting their economies on unsustainable development paths.

The findings of these studies build on decades of studies that have reiterated these points. For example, the 2011 UNEP PAGE Report *Towards a green economy: pathways to sustainable development and poverty eradication*[11] highlighted that 'perhaps the most prevalent myth' is that there is an inescapable trade-off between environmental sustainability and economic progress. It notes that there is now substantial evidence that the greening of economies inhibits neither wealth creation nor employment opportunities. On the contrary, many green sectors provide significant opportunities for investment, growth and jobs. For this to occur, however, new enabling conditions are required to promote such investments in the transition to a green economy, which in turn calls for urgent action by policymakers.

The 2012 UNEP TEEB report on *Nature and its role in the transition to a green economy* also highlighted that investment in nature today and recognition of ecosystem resilience is integral to the long-term growth and the foundation of a green economy[12]. It finds that proactive investments in natural capital by financial institutions, businesses and governments are the building blocks in the transition to a green economy. The study highlights that although it might seem clear that an effective "green economy strategy" would also cover natural capital, too often, these strategies are primarily focused on climate change with scant attention to nature and biodiversity. Natural capital is often sidelined in green growth strategies.

These are a few studies out of a vast number on this topic, showing that while the evidence on the importance of natural capital has been highlighted for a long time, response in protecting and restoring natural capital has been slow. There are signs of progress, however. For example, for the first time in March 2021, the United Nations announced that it would measure the contributions of nature in economic reporting, ensuring that natural capital - such as forests, oceans, and other ecosystems - is factored into economic assumptions[13]. The new framework – the System of Environment-Economic Accounting – Ecosystem Accounting (SEEA EA) – was adopted by the UN Statistical Commission and marked a significant step forward to complement the commonly used GDP statistic.

Natural capital approaches

Natural capital spending can cover a broad range of policies, management actions and investments that bring considerable benefits to the economy. For example, global sustainability forums, international organisations, national governments, businesses and non-governmental organisations/ civil societies have begun to incorporate natural capital and ecosystem service information into policy and management in the form of Payment for Ecosystem Services (PES), environmental taxes, cap-and-trade programmes, environmental laws and regulations, product certification, natural resource management practices, among other tools.

10 https://www.worldbank.org/en/news/press-release/2021/10/27/global-wealth-has-grown-but-at-the-expense-of-future-prosperity-world-bank
11 https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Green_Economy_Report_UNEP.pdf
12 http://www.teebweb.org/wp-content/uploads/2013/04/Nature-Green-Economy-Full-Report.pdf
13 https://news.un.org/en/story/2021/03/1086102 and https://seea.un.org/ecosystem-accounting

Recent studies have also pointed to nature-based activities such as afforestation, agroforestry, the creation of green spaces and management of protected parks and areas that can all generate a wide range of jobs from low-skill entry-level to high-skill jobs[14]. Nature-based solutions (NbS) are defined by IUCN[15] as "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits". Recent studies have found that investment in NbS can bring immediate stimulus by producing, in their first year, an average of 60% of both their lifetime jobs and economic impact (gross value added, or GVA), compared to less than 40% of lifetime jobs and GVA from of a set of typical non-nature-based recovery investments, as based on analysis of the f EU National Resilience and Recovery Plans investments, thereby also supporting the economy at the most critical time of need (Vivid Economics, 2020)[16].

This study looks at the full range of natural capital approaches determined by country actors as having beneficial impacts on the natural capital in their contexts.

Analyses of pandemic-related economic decision-making

While there is growing analysis of the integration of natural capital into economic decision-making, considerable gaps remain. Analysis undertaken by Steele and Debnath (2020)[17] finds that reviews in this area cover trade policy and, to some extent, fiscal policy but provide much less commentary on monetary policy and general budgeting. Further, they find that most studies reviewing economic decision making in the pandemic recovery have focused on either climate emissions mitigation or, where natural capital and green stimulus are the focus, on OECD countries.

Steele and Debnath (2020) also find that the majority of studies are performed by international organisations and green growth-based platforms such as BIOFIN (a United Nations Development Programme (UNDP) collaborative partnership), the World Bank, including their Global Program on Sustainability (GPS)[18], which encompasses the Wealth Accounting and Valuation of Ecosystem Services (WAVES) Global Partnership, and the Green Growth Knowledge Platform (GGKP).

In 2021, the WAVES Global Partnership hosted its 5th policy forum on natural capital account for better decision making[19]. The forum asserted that government spending, policies, and economic management must shift from short-term pandemic-related imperatives towards a green recovery that tackles a breadth of pressing challenges –climate change, biodiversity conservation and persistent poverty – that leave us vulnerable to pandemics and other shocks. The WAVES closeout report[20] also provides key lessons and learnings from the programme across four thematic dimensions: data and information, tools and capacities, institutions, and decision making.

14 Raymond et al., 2017, An Impact Evaluation Framework to Support Planning and Evaluation of Nature-based Solutions Projects
15 https://www.iucn.org/commissions/commission-ecosystem-management/our-work/nature-based-solutions
16 https://www.vivideconomics.com/wp-content/uploads/2021/06/Fund-Nature-Fund-the-Future.pdf
17 Steele and Debnath (2020) Undertaking a Global Assessment on the Integration of Natural Capital into Government Economic Decision-Making: Scoping Report
18 https://www.worldbank.org/en/programs/global-program-on-sustainability
19 5th NCA Forum proceedings final.pdf (wavespartnership.org)
20 https://www.wavespartnership.org/en/knowledge-center/edit-knowledge-center-accounts-policy-waves-closeout-report-2012-2019

Among the studies that have contributed as theoretical and methodological benchmarks for this study are *The OECD Green Recovery Database: Examining the environmental implications of COVID-19 recovery policies* (OECD, 2021)[21], *The Greenness of Stimulus Index* (Vivid economics, 2020)[22] which focuses on G20 countries, and the *Green Economy Tracker* from the GEC, 2021)[23,24].

The OECD Green Recovery Database tracks COVID-19 recovery measures with likely positive or negative environmental implications across 43 countries and the EU (all OECD members, an Accession country, and OECD Key Partner countries). The database seeks to capture measures with impacts on air and plastic pollution, water, biodiversity, waste management and climate change adaptation and mitigation. The study found that as of April 2021, only around 17% of recovery spending was allocated to green measures.

Vivid Economics' Greenness of Stimulus Index combines the flow of stimulus into five key sectors (agriculture, energy, industry, waste, and transport) with an indicator of each sector's environmental impact. The impact indicator assigns a greenness value (positive or negative) to each sector for every study country. The index covers G20 countries and ten other economies. The July 2021 version of the Index found that the announced $17.2 trillion in stimulus spending would have a likely net negative environmental impact in 15 of the G20 countries and economies and in five of the ten other analysed countries.

The Green Economy Coalition's Green Economy Tracker is a broader policy tool than the database and index. It seeks to benchmark the status of nations in transitioning to green and fair economies through 21 trackable policies (including the extent of green COVID-19 recovery) across six themes (governance, finance, sectors, people, and nature). The tool shows that two-thirds of the countries currently being tracked in the tool have no or minimal green recovery policies.

Also notable is that while there have been many desk reviews of pandemic-related economic decision making, and macro analysis of green recovery trends, there has not been much work on the ground on what this is looking like in practice and how to tangibly influence change.

This study aims to change this, addressing the gaps in the literature by undertaking country-level deep dives into pandemic-related economic decision making that covers all components of policy (trade, fiscal, monetary and budgetary) as relevant for the country, and through analysis driven and performed by the partner local organisations.

21 https://www.oecd.org/coronavirus/policy-responses/the-oecd-green-recovery-database-47ae0f0d/
22 https://www.vivideconomics.com/casestudy/greenness-for-stimulus-index/
23 https://greeneconomytracker.org/
24 Also of interest may be the Oxford-led Global Recovery Observatory, which tracks and assesses every individual COVID-19 related fiscal spending policy announced by 50 leading economies for potential impacts on the environment and the socio-economy https://recovery.smithschool.ox.ac.uk/tracking/; the Energy Policy Tracker, which collects publicly available information on public spending commitments for different energy types, and other policies supporting energy production and consumption. The Tracker currently covers more than 30 major economies and the Multilateral Development Banks. https://www.energypolicytracker.org/; and the Green Recovery Tracker, which assesses the contribution of EU member states' national recovery plans to the green transition. The assessment is based on a quantitative and qualitative analysis conducted in partnership with local experts. https://www.oecd.org/coronavirus/policy-responses/the-oecd-green-recovery-database-47ae0f0d/

Objectives and Methodology

Objectives

The objectives of this work are as follows:

- **To improve our understanding of what drives the decisions for allocations in public financing, and further, how this understanding can be leveraged to improve natural capital integration in economic decision-making.**
  - The study aims to do this by seeking to understand the context around which the pandemic stimulus spending has developed in each study country, and also by developing an understanding of the policies undertaken across the countries (representing different contexts), to understand what policies are supporting natural capital and which are undermining natural capital. The study anticipates doing so will help make the impacts on natural capital explicit – as these are rarely presented in the considerations of public financing allocations.

- **To address the gap in the broader green recovery literature that would make a strong economic case for investing in nature, since nature is not featuring in any significance, and there is little data of natural capital integration or recommendations on how to strengthen this area.**
  - This study aims to do this by looking at the specific economic decisions made within the pandemic recovery phase and consider how those policies are or are not supporting natural capital, what the impacts of those decisions will be, and how such policies could be strengthened.

- **To influence pandemic recovery plans in Brazil, India, Uganda and France to mainstream natural capital in economic decision-making into budgetary, fiscal, monetary and trade policy.**
  - A local organisation in each of the four countries undertook national deep dives into the pandemic recovery packages in their countries, and have developed recommendations and advocacy strategies to help highlight the findings.

- **To draw general lessons and make recommendations for how countries more broadly can protect, sustainably use, and restore natural capital in their COVID recovery to "build back better" through providing a granular look at how this is being done in different contexts and drawing out what can be learned from the approaches.**
  - Bringing together lessons from across the four countries, this synthesis paper attempts to draw broader lessons and a set of recommendations for what works in strengthening support to natural capital.

Methodology

In this study, our emphasis is on protecting, sustainably using and restoring natural capital, by which we mean nature and biodiversity with a focus on renewable resources and ecosystems, such as forests, water bodies and watersheds – and the biodiversity that they contain. We do not include non-renewable energy and mineral resources in this category because in this definition as we are seeking to focus on primary natural assets that can be protected, sustainably used and maintained as part of a renewable system (i.e. the definition used does not focus on oil, gas, coal and peat resources, or metallic and non-metallic resources beyond acknowledging that using these resources contribute to negative impacts on the environment and climate)[25]. We also do not consider all environmental issues more broadly, because we want to highlight this gap in the literature and policy recommendations on the natural capital components of the economy and how they can work as building blocks for sustainable economies.

Natural capital refers to the living and non-living components of ecosystems—apart from people and the products and services they produce—that contribute to building commodities and services of value to humans. Manufactured capital (buildings and machines), human capital (knowledge, skills, experience, and health), social capital (relationships and institutions), financial capital (monetary wealth), are all examples of capital assets along with natural capital. The interactions between these various forms of capitals are also another vital aspect for having a holistic perspective to understanding the capital value in a particular context.

As discussed in Section 2, natural capital is the most marginalised and receives the least attention from economic decision makers. Nature and biodiversity are starting to receive greater attention, particularly in the face of various science processes highlighting critical issues from the destruction of nature and biodiversity, an increasing number of grassroots pressure groups on the environmental emergency, and the pending outcome of the UN Biodiversity Conference of the Parties (CBD COP15) in China in 2021/22, the run-up to which garnered much political interest on a global stage. At the second segment of CBD COP15 in April-May 2022, the Post-2020 Global Biodiversity Framework, which identifies 21 action-oriented targets for urgent action over the next decade, will be up for adoption. Included in these targets is the proposal for the protection of 30% of land and 30% of oceans by 2030 (known as the '30x30' target). As regards climate change, in this paper, we are interested in climate adaptation linked to natural capital (e.g., nature-based solutions) but not on mitigation of climate emissions (although mitigation is where much more data is available, and many more examples exist of integration into post-COVID recovery).

This study does not seek to analyse the initial pandemic response spending, which largely consisted of emergency or crisis spending on health and rescue funding to avoid significant economic and social ramifications such as firm failures and widespread job losses. The response funding was immediate funding reacting to the crisis. The next phase of funding, the recovery funding then moved to longer-term strategic funding, representing key economic decision-making opportunities to support natural capital.

25 See Leach et al. (2019) for a discussion on the varying definitions of natural capital https://www.sciencedirect.com/science/article/pii/S221204161730815X

The pandemic recovery stimulus measures present an opportunity to analyse economic decisions in a clear and specific context. The purpose of the pandemic recovery stimulus measures are to support the economy in recovering from the negative impacts of the economic shock of the pandemic and to help with long-term recovery. There are clear incentives to protect the population from economic shocks through social protection and address the economic shocks by investing in politically important economic activities in the economy - where measures are likely to result in further productivity and growth. Given the significant financing scale of the stimuli, it also provides an opportunity to undertake measures that will result in transformational benefits for the country – i.e., shifting the way systems or processes are working. These recovery plans present key opportunities for governments to ensure long-term benefits over short-term gains that may lead to long-term deterioration.

The Greenness of Stimulus Index post-COVID-19 review by Vivid Economics identifies the following policies that are likely to have positive impacts on natural capital that can be integrated into COVID recovery plans:

- Corporate bailouts with green conditionalities
- Investment in nature, such as forest conservation and sustainable agriculture
- Loans and grants for green investments
- Subsidies or tax reductions for green products and the removal of subsidies for polluters
- Green research and development (R&D) subsidies
- Reinforcing environmental regulation and avoiding deregulation

This list can be structured and framed as the budgetary, fiscal, monetary and trade policies that can sustain and conserve natural capital:

- **Budgetary policies** (e.g., spending behind green national political priorities such as green recovery; investment in green skills, qualifications, and education)
- **Fiscal policie**s (e.g., expenditure policies in favour of sustaining and conserving natural resources such as supporting sustainable agriculture practices, controlling illegal fishing, employment programmes through tree planting, and controlling illegal wildlife trade; behavioural policies that intend to nudge individual and business consumer or investment decisions towards green products and services)
- **Monetary policies** (e.g., debt policies in favour of debt for climate and nature swaps, credit for environmentally friendly green enterprises, strengthening of banking and financial supervision and disclosure for the environment)
- **Trade policies** (e.g., reduction of tariffs on environmentally friendly exports and imports such as organic agriculture or sustainable fisheries)

In addition to identifying these positive incentives and policies, the country analysis also documented examples of counter incentives and policies that are likely to impact natural capital negatively. These are broadly the reverse of the above lists and include:

- Corporate bailouts to industries that undermine nature
- Investment in nature-negative solutions such as in supporting activities that lead to, or do not prevent, deforestation
- Loans and grants for investments that undermine nature

- Subsidies or tax reductions for nature-negative products
- R&D subsidies for nature-negative industries
- Removing environmental regulation, and deregulation

And in terms of budgetary, fiscal, monetary and trade policies, these negative natural capital policies could include:

- **Budgetary policies** (e.g., identification of national political priorities but without incorporating principles for green and sustainable recovery; no investment in green skills, qualifications, or education)
- **Fiscal policies** (e.g., expenditure policies in favour of the unsustainable natural resources such as tax breaks and subsidies for forest clearance, supporting environmentally damaging farm inputs, supporting activities that will overuse water sources, etc; behavioural policies that intend to nudge individual or business, consumer or investment decisions away from green products and services)
- **Monetary policies** (e.g., debt management without any sustainability criteria, credit for environmentally polluting industries)
- **Trade policies** (e.g., reducing tariffs on environmentally damaging exports and imports such as beef, soy, corn, unsustainable timber and high input agriculture).

In assessing whether the policies will have positive or negative impacts, the study also utilised findings and guidance from preceding studies as well as country knowledge and experience. Such preceding studies included the World Bank's proposed sustainability checklist for assessing economic recovery interventions, released in April 2020[26]. This study used this approach of assessing interventions based on if they met certain criteria. The criteria for this study were defined as the positive and negative budgetary, fiscal, monetary and trade policies as described above. Considering potential positive and negative interventions as opportunities and barriers to a nature-positive recovery, this study reviewed the pandemic recovery stimulus packages in four selected countries.

Country Selection

The countries selected for this study were: Brazil, France, India and Uganda. In selecting countries for the case studies, priority was given to countries that are both already showing leadership in supporting natural capital in some dimension, and also to where civil society demand for advocating for stronger natural capital integration was identified, meaning there were NGOs who were willing and had the capacity to undertake the study in their country. Uganda is already creating a track record of leadership of natural capital in the continent; Brazil hosts one of the world's largest and most biodiverse ecosystems – the Amazon rainforest, France is emerging as a leader in supporting biodiversity in Europe, and India is a biodiversity-rich megadiverse country that is emerging as a leader in Asia. The four countries identified have systems, institutions and practices through

26 https://thedocs.worldbank.org/en/doc/223671586803837686-0020022020/original/SustainabilityChecklistforAssessingEconomic RecoveryInvestmentsApril2020.pdf

The World Bank checklist sets out key issues that the World Bank have proposed must be addressed by recovery packages if they are to work for environmental sustainability. The World Bank checklist included the following questions:

i. Will the intervention protect biodiversity and ecosystem services?
ii. Could the intervention generate irreversible environmental damage - such as increased deforestation, wetland development or damage to cultural heritage sites?
iii. Will the intervention support the reclamation of previously polluted land so that it can be (re)developed?
iv. Will the intervention improve agriculture and land productivity?
v. Will the interventions address market failures such as prices that fail to account for externalities?

which natural capital is being integrated to some extent, meaning interesting lessons from integration as well as lessons for strengthening the integration can be drawn. The countries also represent a spread in geography and economic classification, allowing for lessons to be drawn from different contexts and for varying levels of development and wealth. Thus, the combination of existing natural capital integration, the diversity in geographic and economic positions, and the availability of local research and advocacy capacity drove the country selection.

Natural capital accounting systems and tools are implemented to varying extents in these countries[27]. Natural capital accounting provides detailed integrated statistics on how natural resources contribute to the economy and how the economy affects natural resources. The envisaged results of constructing natural capital accounts are to create a critical pool of natural capital stocks and flows data that can be integrated into the National Accounting System. We are not focusing on natural capital accounting in this study. This study can, however be an input into natural capital accounting systems.

The Analysis

The analysis in each country attempts to identify the full range of stimulus measures implemented by the country at the date of the study. Not all types of policies (budgetary, fiscal, monetary, and trade) were utilised by every country. The majority of the country analyses have been undertaken from early to mid-2021.

Each proposed measure in the pandemic recovery stimulus packages was reviewed in as much detail as available to identify whether they were likely to positively or negatively impact the country's natural capital. In some cases, it was hard to tell what impact the measure would have as this would be dependent on how it would be implemented, and in other cases, there was no discernible impact on natural capital (neutral). The impacts were classified as follows:

- **Strong positive impact:** interventions that have a significant positive impact on natural capital such as the restoration of hectares of forests and wetlands, the enforcement of environmental management regulations, the construction of waste recycling facilities, etc. A significant impact is defined as having an impact with significant depth or breadth, e.g., likely to affect a large proportion of natural capital or likely to have impacts for many years.
- **Low positive impact:** interventions that have a weak positive impact on natural capital such as citizen sensitisation campaigns that also capture natural resource management, enhancing the coordination of government agencies, etc.
- **Neutral:** interventions that do not have a discernible impact on natural capital.
- **Low negative impact:** interventions that lead to some deterioration of natural capital, such as City Council increases to household waste collection fees, which can increase illegal waste disposal that can impact wetlands, drainage channels, etc.
- **Strong negative impact:** interventions that have a significant negative impact on natural capital, such as bush burning, conversion of forested land to palm oil and sugar cane plantations, etc.
- **Unable to assess:** this represents interventions with insufficient information to determine whether it will have a positive or negative impact.

27 The Green Economy Tracker has an indicator that summarises the 'National capital accounts' systems in place for each of the four countries https://greeneconomytracker.org/policies/natural-capital-accounts

In identifying where positive, negative and neutral policies have been integrated into the pandemic recovery stimulus packages, the country analysis identifies where there were opportunities to better support or integrate natural capital into policies that have been implemented and makes recommendations of where natural capital can be supported and integrated into current policies or through additional policies going forward.

The country analysis also involves consideration of what is driving these nature-positive and nature-negative decisions in the post-COVID recovery and how the factors driving these can be addressed. The analysis reviews political economy factors including economic incentives and institutional drivers within government, the private sector and the international community. However, it is beyond the scope of this study to assess previous spending to determine whether a particular policy, investment or action is exclusively implemented because of the pandemic, or whether it existed prior to the crisis and has been expanded or accelerated as part of efforts related to the pandemic recovery. The study does not track trends in government budgets over a number of years. Instead, it seeks to examine the pandemic stimulus spending to assess whether the investments indicate positive or transformational natural capital approaches and understand the current political economy around those decisions.

Each country study is being accompanied by an advocacy and engagement strategy to work alongside the country analysis to develop ways that national partners can engage and communicate with others to share the messages of the analysis and seek to build a broader national coalition for change. This will include the convening of policy workshops, development of policy briefs and press releases and press briefings as well as social media, short video releases and parliamentary briefings.

Photo: Hendrik Cornelissen via Unsplash

Summary of country analyses: recovery measures and their impact on natural capital

The pandemic economic stimulus plans for each country are structured differently. In France and India, the stimulus plans were well-defined packages in addition to the annual budget. In Brazil, the stimulus plans are a combination of pandemic response measures and annual budget measures. In Uganda, the economic stimulus was blended into the annual budget, dubbed the 'recovery budget'. The following provides brief natural capital contexts and summaries of the economic stimulus plans for each country.

Brazil[28]

State of natural capital in the Brazilian Amazon

The study in Brazil focuses on the Brazilian Legal Amazon region. This area encompasses nine Brazilian states belonging to the Amazon basin, which occupies 60% of the national territory, but represents only 9% of GDP [29]. The region, containing 38 million inhabitants, is characterised by low rates of social and economic development, in addition to a deficit of adequate infrastructure in mobility, sanitation, energy, and the internet.

The Amazon basin is the most biodiverse ecosystem on Earth. It provides between 35% and 40% of Latin America's fresh water, has 60% of the world's remaining tropical forests, and is home to at least 25% of terrestrial species. In addition, it brings together unique cultures and knowledge associated with the forest through indigenous populations belonging to more than 400 different ethnic groups, who use the forest sustainably to produce materials, food, and medicines (FAS and GEC, 2020).

The economic dynamic of the region is centred mainly on sectors that use natural capital, such as timber, agriculture and cattle ranching and mining. These activities are important for the generation of income and employment but do not contribute to protecting and maintaining the natural capital. Data on agricultural and livestock activities show that the region contributes 20.3% and 22.6%, respectively, in the gross value added of the Brazilian economy[30].

The bioeconomy – defined as an industrial production model based on the sustainable use of indigenous biological resources – is an important sector to the Amazon. The objective is to offer solutions for the sustainability of production systems with a view to substituting fossil and non-renewable resources. In the Amazon, this represents, for example, the development of economic and commercial activities that generate added value to native products, such as the Brazil nut and the açai.

Policy responses in the first stage of the pandemic

The first confirmed case in Brazil was reported on 26th February 2020, and by June 2021, 9% of the population had been infected. The country was hit hard by the pandemic, with the second highest death toll globally, eighth highest measured per capita[31].

The pandemic and the related restrictions in economic activity resulted in a sharp decline of external and domestic demand while also constraining supply. Currency depreciation and a surge in commodity prices fed into headline inflation, even as the output gap remained negative. The unemployment rate rose, especially among young people, women, and Afro-Brazilians. The high level of public debt also posed medium-term fiscal risks.

There were significant impacts on progress in poverty reduction and human capital accumulation. The public school closures are expected to have raised learning poverty from 48% to 70% and to have disproportionately affected the poor – remote learning

28 See the Brazil country report in Portuguese at: Recuperação Verde na Amazônia - FAS Amazônia (fas-amazonia.org) and Fact Sheet Recuperação Verde na Amazônia - FAS Amazônia (fas-amazonia.org). The English version is forthcoming. See the country study blog here: https://www.greeneconomycoalition.org/news-and-resources/is-there-still-time-for-a-green-recovery-in-the-amazon

29 They are: Acre, Amapá, Pará, Amazonas, Rondônia, Roraima and part of the states of Mato Grosso, Tocantins and Maranhão.

30 https://www.ibge.gov.br/en/statistics/economic/national-accounts/16855-regional-accounts-of-brazil.html

31 https://www.worldbank.org/en/country/brazil/overview#1

benefitted less than 50% of students in the less developed regions.

Brazil's public fiscal response measures included the expansion of health spending, temporary income support to vulnerable households (cash transfers to informal and low-income workers, bringing forward the 13th pension payment to retirees, expanding the Bolsa Familia programme with the inclusion of over one million more beneficiaries and advance payments of salary bonuses to low-income workers), employment support (partial compensation to furloughed workers, as well as temporary tax breaks), lower taxes and import levies on essential medical supplies, and new transfers from the federal to state governments to support higher health spending and as a cushion against the expected fall in revenues. Public banks expanded credit lines for businesses and households, and the government backed more than 1% of GDP in credit lines to Small and Medium-sized Enterprises (SMEs) and micro-businesses to cover payroll costs, working capital and investment[32].

Brazil's policies in the response stage were trying to strike a balance between protecting the poorest and ensuring sustainable public finances, including at subnational levels. Moving from the initial response, the government was focusing on restoring high and sustained growth, increasing employment, raising productivity, improving living standards, reducing vulnerabilities, and fostering private sector-led investment[33].

Brazil's pandemic recovery stimulus package measures covering the Brazilian Amazon

On May 7, 2020, the National Congress approved the Constitutional Amendment (EC) No. 106, instituting the extraordinary fiscal, financial and contracting regime to tackle the national public calamity, separating the annual fiscal budget from the measures that would be adopted to contain the effects of the COVID-19 pandemic. The extraordinary fiscal regime allowed the Federal Government to issue Provisional Measures to authorise new spending. As part of this, the Brazilian Central Bank was also authorised to carry out urgent monetary measures to facilitate access to financial resources for companies of various sizes in the face of the worsening crisis. Extraordinary budget expenditures can be tracked through the Ministry of Economy's National Treasury platform, which reports the estimated Union expenditures on measures to address the effects of the COVID-19 pandemic. The Brazilian government spent approximately US$100 billion in pandemic measures in 2020, equivalent to approximately 7% of Brazil's GDP.

This study reviews the expenditures of the Federal Government and the monetary measures of the Central Bank of Brazil (BCB) that are relevant for the economic recovery stage that followed the response stage. The study also includes other relevant recovery measures covering the Legal Amazon region, such as the Annual Budget Law (LOA) of 2021, rural credit and subsidies, project financing funds, public equipment concessions for the private sector foreseen for 2021 and regulatory acts. The analysis covers measures for which an estimation of funding can be discerned, noting that the amount and duration of funding are unclear in many cases and not available in others.

The resources allocated to the economic stimulus measures surveyed show that about US$10.4 billion being allocated to these states will impact their natural capital. This amount is composed of budget actions planned for 2021 and grants and credits to the agricultural sector calculated between July 2020 and June 2021.

32 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B
33 https://www.imf.org/en/News/Articles/2021/09/22/na092221-brazil-sustaining-a-strong-recovery

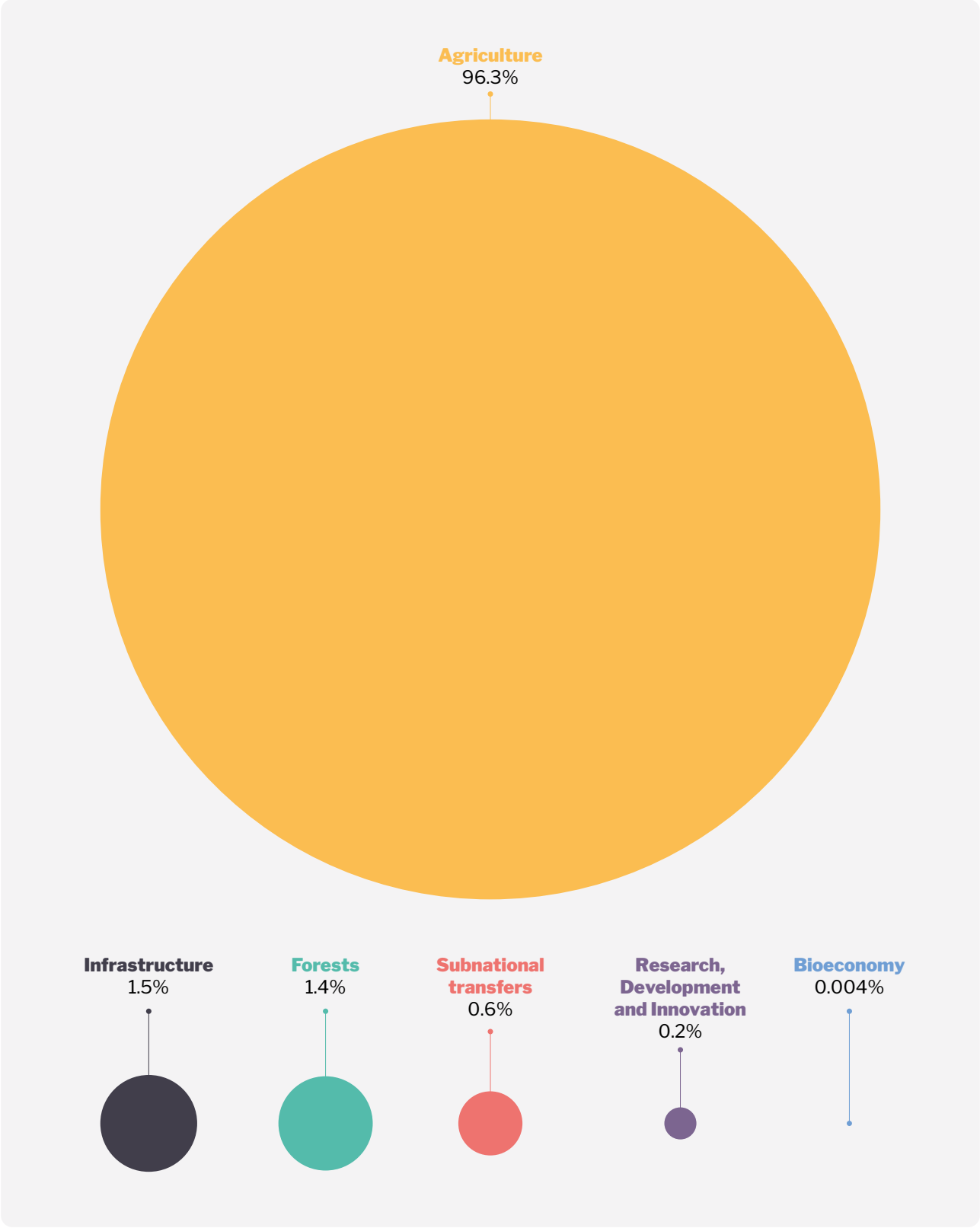


Figure 2: Sectors covered in Brazil's pandemic economic stimulus by proportion

Figure 2 shows that the vast majority (96%) of the $10.4 billion are related to the agriculture sector.

Table 2: Brazil: measures expected to have a positive impact on natural capital

Measure	Budget (in US$ millions)
Agriculture	**Total: 946.558**
Rural credit and subsidies (Pronaf + ABC)	942.6
Promoting and Strengthening the Productive Structuring of Family Agriculture, Small and Medium Rural Producers	3.91
Support to the Development of Sustainable Agriculture and Livestock Production	0.048
Forests	**Total: 73.8**
Environmental Control and Inspection and Fire Prevention	73.35
Protection and Promotion of the Rights of Indigenous Peoples	0.45
Infrastructure	**Total: 4.49**
Infrastructure Implementation of Infrastructure for the Connected North Projects	4.49
Bioeconomy	**Total : 0.42**
Sustainable Development of the Bioeconomy + InovaSociobio	0.42
Research, Development, and Innovation	**Total : 1.88**
Support for Digital Inclusion Initiatives and Projects	1.03
Expansion and Modernisation of the Infrastructure for Studying Biodiversity, Technological Innovation, and Sustainability of Amazonian Ecosystems in the Face of Global Change	0.24
Support to the Development of Programmes and Projects in the Scientific, Technological and Innovation Areas in Suframa's Performance Area	0.44
Incentive to Research and Development aimed at Innovation, Digital Technologies and the Productive Process	0.05
Support to Institutional Projects for Research in the Amazon Region (CT-Amazon)	0.12
Total	**1 027.148**

There are 12 measures that will potentially have a positive impact on natural capital, amounting to approximately US$1 billion, representing approximately 9.9% of the total budget. Emphasis is on actions to finance family farming and low-carbon productive systems.

The largest positive natural capital measure, representing US$942 million (92% of the positive measures), is the rural credit and subsidies. This comes under two specific programmes: Pronaf, which finances family farmers, and the ABC Program (Low Carbon Agriculture), which finances productive systems of no-till farming, recovery of degraded pastures, crop-livestock-forest integration and planted forests, among other models. Financing of this type of agriculture tends to decrease the pressure on deforestation.

Table 3: Brazil: measures expected to have a negative impact on natural capital

Measure	Budget (in US$ millions)
Agriculture	**Total: 9097.37**
Subsidies and rural credit for the agricultural sector	9004.96
Flexibility in the use of Agribusiness Letters of Credit (LCAs)	88.15
Promotion of the agricultural sector	22.7
Development of agricultural productive chains	0.38
Technical assistance and rural extension	0.06
Research, Development, and Innovation	**Total: 0.74**
Research and development of technologies for agriculture and livestock	0.23
Technology transfer for innovation in agriculture and livestock	0.5
Encouragement of fishing and aquaculture production	0.01
Infrastructure	**Total: 0.38**
Development of fishing and aquaculture infrastructure	0.38
Total	**9 097.37**

There are nine measures that are predicted to have a negative impact on natural capital. These measures represent approximately US$ 9.1 billion, or 87.5% of the total budget. Grants and credits for the agricultural sector account for almost all the negative impact measures. These measures are considered negative because the increase in agriculture, if not undertaken with sustainable practice, puts pressure on the forests of the region, which reduces forest cover and threatens biodiversity. These rural credits are not linked to the promotion of sustainable practices in agricultural activities, nor do they take the opportunity to condition credit to this type of practice.

Photo: Raul Golinelli/ Bioversity International via Flickr, CC BY-NC-ND 2.0

Table 4: Brazil: measures with an undetermined impact on natural capital:

Measure	Budget (in US$ millions)
Infrastructure	**Total: 149.97**
Implementation of basic infrastructure in the Municipalities of the Calha Norte Region	149.97
Forests	**Total: 73.05**
Financing of projects in the productive sector in the ambit of the Amazon Development Fund - FDA	73.05
Subnational Transfers	**Total: 67.69**
Special transfers (to municipalities and states)	67.69
Research, Development, and Innovation	**Total: 14.56**
Support for integrated local sustainable development projects	12.6
Support for rehabilitation, accessibility and technological modernisation Projects and works in urban areas	1.28
Structuring and stimulating productive activities - National Integration Routes	0.49
Management of regional development, land use planning and irrigation policies	0.09
Promotion of regional economic development in Western Amazônia and the Municipalities of Macapá and Santana (AP)	0.06
Structuring and stimulating productive activities - National Integration Routes	0.03
Social and professional qualification of workers	0.01
Total	**305.27**

There are ten measures (2.9% of the budget) where the impact on natural capital is not able to be assessed. This is because the impact of these measures will depend on how they are implemented in public policies in the region (US$305 million).

The largest measure is the *Implementation of Basic Infrastructure in the Municipalities of the Calha Norte Region*, with resources of US$149 million. It is well established that the region lacks infrastructure. Allocating these resources to projects such as opening roads or expanding urban areas in the region's cities has a strong impact on biodiversity loss. On the other hand, investing these resources in sanitation projects or in improving urban waste management would bring positive results in water and soil quality.

Similarly, for the *Special Transfers* measure, the municipalities and states that benefit from these resources have the chance to contribute to the natural capital if they invest in areas such as family and low-carbon agriculture, photovoltaic energy for communities without access to it, or actions to monitor and control deforestation.

Overall

Figure 3 illustrates that most of the resources (87.3%) are being allocated to measures with a negative impact on natural capital. Thus, in a scenario of significant health, economic and social crisis which demanded an increase in public spending, it can be stated that natural capital is not being considered as central to economic decisions in the Legal Amazon region. These expenditures are reflective of the public expenditures that were being made prior to the pandemic, in line with the present government's vision and priority sectors. Accordingly, the Brazilian government has missed the opportunity to direct spending to policies to enhance natural resources. Agriculture and cattle raising has been the main economic sector prioritised, with particular support going to business-as-usual agriculture (around US$9 billion) despite the persistent pressure these activities place on the forest – in contrast to the around US$0.9 billion that went to supporting more sustainable agricultural practices. In addition to the budgetary allocations, ten regulatory acts weakened the environmental governance in mining, fishing, and forestry. Little explored in the decision-making process, the bioeconomy is perhaps one of the sectors with the greatest potential for economic growth in the region.

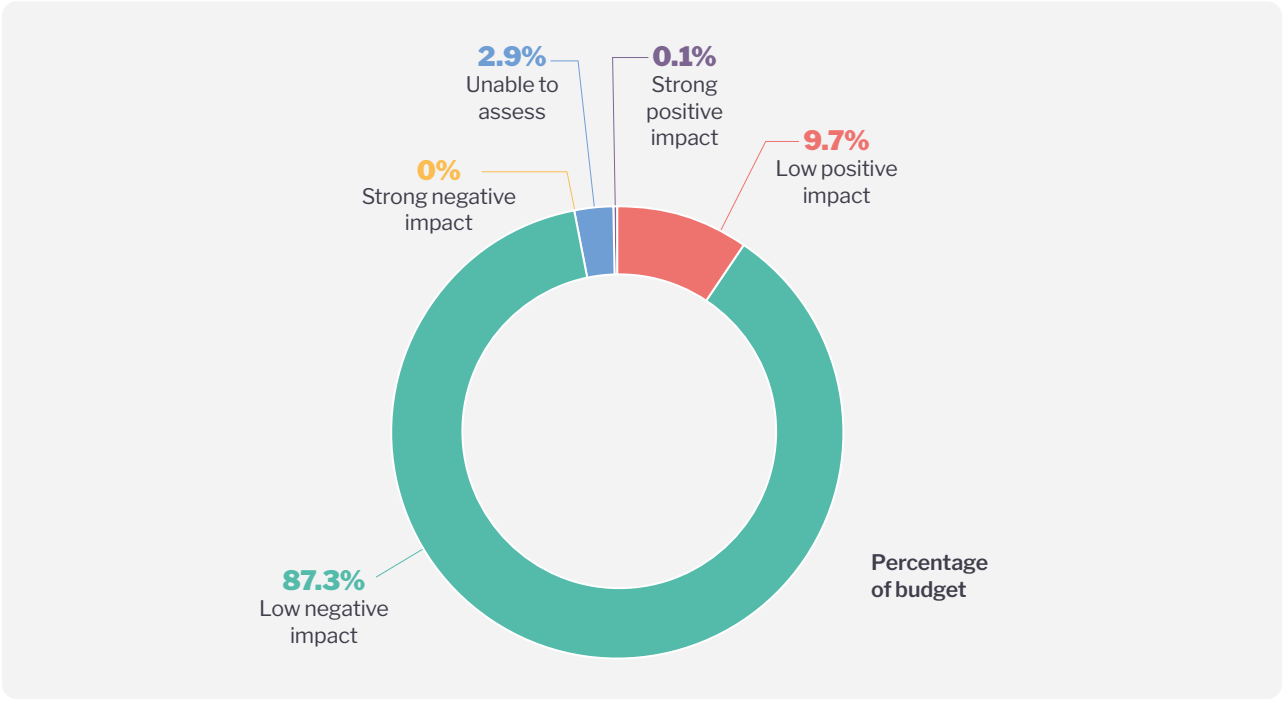


Figure 3: Assessment of the impact on natural capital of the measures in Brazil's pandemic economic stimulus

However, Amazon State Governors have shown leadership where the Federal government has not. The lack of support from the Federal Government led to an unprecedented move at the sub-national level: it has led to the governors of the states of the Legal Amazon, who also brought together actors across the public and private sectors, to launch, in July 2021, the Amazon Green Recovery Plan (PRV) with guidelines and priorities for the region. The Plan does not yet have its own resources available but has a governance structure to attract public, private, internal, and external financiers to the proposed projects.

Photo: Diogo Hungria via Unsplash

The PRV is based on four axes: (i) curbing deforestation, (ii) sustainable productive development, (iii) green technology and capacity building, and (iv) green infrastructure. This is timely, given the 2021 COP26 side agreements to extend international support to such outcomes, indicating that such sub-national plans may be able to attract broader international support and financing to fill the lack of support from the Federal Government.

Brazil's missed opportunities

Brazil's recovery package misses a huge opportunity to support a shift to more sustainable agricultural practices – only US$0.9 billion is being allocated to family farming and low-carbon productive systems, whereas ten times this amount is being allocated to agricultural practices that are not compatible with, and instead put pressure on, the Amazon rainforest. Family farming and low-carbon agriculture should get more space in the agricultural sector through an increase in credits and subsidies to these categories.

Brazil's recovery package also had several measures where the impact could be positive or negative depending on how they will be implemented. Largest among these, the *Implementation of Basic Infrastructure in the Municipalities of the Calha Norte Region*, could represent much needed investment in sanitation or improving urban waste or could represent actions that are highly disruptive for biodiversity, such as expanding urban areas in the cities or opening new roads. The recovery package misses setting an underlying vision to ensure that all activities are supporting biodiversity – such an impetus would ensure alignment of such projects to natural capital positive activities that also meet broader development objectives. This would also help support bioeconomy activities, which need investments throughout the production chain to gain scale and viability in the region, as these activities support both natural capital and development objectives.

The impetus for such a shift in approach may come from the Green Recovery Plan (PRV). In moving forward, political actors from the executive and legislative branches should seek to allocate part of the budget actions with a negative or underdetermined impact on natural capital to the projects foreseen in the Green Recovery Plan (PRV) as a way to finance them.

France[34]

State of natural capital in France

The French economy has a strong dependence on nature and biodiversity, both in the mainland and through its overseas territories, which have large tourism industries, and also in the marine areas under national sovereignty. France's mainland includes 4 of the 11 biogeographic regions (Atlantic, Alpine, continental, and Mediterranean). Mainland France is situated in one of the 37 world biodiversity hotspots recognised by the WWF and IUCN[35]. The French exclusive economic zone covers over 11 million km^2 and is the second-largest in the world. France's overseas territories host 1.4% of the world's plants, 3% of molluscs, 2% of freshwater fishes, 1% of reptiles and 0.6% of birds.

Ten per cent of jobs in France are found to directly depend on biodiversity[36]. All of these factors mean that France has significant risks and responsibilities in the area of biodiversity and natural capital.

In France, projects such as the *parc des Aygalades*, which is used for high-capacity hydraulic regulation in case of flooding in the city of Marseille, have shown that NbS can be more profitable than human-made infrastructure and that investing in ecological engineering activities can bring significant benefits (CDC Biodiversité & Vertigo Lab, 2019).

Policy responses in the first stage of the pandemic

The first confirmed case in France was reported on 24 January 2020. The infection spread quickly, and the government introduced the first nationwide lockdown, putting measures on schools, shops and industry, in mid-March 2020. These lockdown measures were slowly lifted in May 2020. Several further rounds of containment measures were subsequently introduced and lifted to slow the spread of the virus. The French economy contracted by 8% in 2020. The pandemic and lockdown measures caused the deepest recession in the country since the second world war[37].

France introduced four amending budget laws between March and November 2020, increasing the fiscal envelope devoted to addressing the crises to about €180 billion (US$ 198 billion) - around 8% of GDP, including liquidity measures. This added to a package of public guarantees of €327.5 billion (US$ 362 billion). Key fiscal support measures included: streamlining and boosting health insurance for the sick or their caregivers; increasing spending on health supplies; liquidity support through postponements of social security and tax payments for companies and accelerated refund of tax credits (e.g., corporate income tax and value added tax); support for wages of workers under the short-time work scheme; direct financial support for microenterprises, liberal professions, and independent workers, as well as for low-income households; postponement of rent and utility payments for affected microenterprises and SMEs; additional allocation for equity

34 See the France country report in English here: Integrating Natural Capital into Government Post-COVID Economic Decision-Making - Vertigo Lab and in French here: Évaluation des impacts en France du Plan de relance sur la biodiversité et le capital naturel - Vertigo Lab

35 https://www.cbd.int/doc/world/fr/fr-nbsap-v2-en.pdf

36 Delannoy, 2016, La biodiversité, une opportunité pour le développement économique et la création d'emplois

37 https://www.imf.org/en/News/Articles/2021/01/15/na011921-five-charts-on-frances-policy-priorities-to-navigate-the-covid19-crisis

investments or nationalisation of companies in difficulty; facilitating granting of exceptional bonuses exempt from social security contributions; extension of expiring unemployment benefits until the end of the lockdown and preservation of rights and benefits under the disability and active solidarity income schemes; and support measures for the hardest-hit sectors (including incentives to purchase greener vehicles and green investment support for the auto and aerospace sectors)[38].

The 2021 budget included additional funding for emergency programmes. The 2021 budget also incorporated key elements of the fiscal package (the *Plan de relance*) announced in September 2020.

France has assessed the environmental implications of its announced recovery package, the *Plan de relance*, including an initial assessment at the time of the package launch in September 2020. Subsequently, the Government's independent advisory council, Haut Conseil pour le Climat, published a detailed analysis in late 2020. Focusing on the climate dimensions, that analysis seeks to evaluate measures not only against whether they will reduce emissions relative to the status quo but also to assess to what extent they are aligned with a trajectory towards net-zero emissions by 2050, in line with the country's climate change commitment. Undertaking a similar assessment using a natural capital perspective would help to promote supportive natural capital policies.

France's pandemic recovery stimulus package

In September 2020, the French government presented a €100 billion (US$113 billion[39]) two-year recovery plan to support economic activity and job creation, the *Plan de relance*[40]. This amounts to 4% of France's annual economic output. Facing recent political conflicts and social tensions (for example the 'gilets jaunes', or 'yellow vests', movement), the government decided to focus support on three areas: economic competitiveness and resilience; green transition; and solidarity and territorial cohesion.

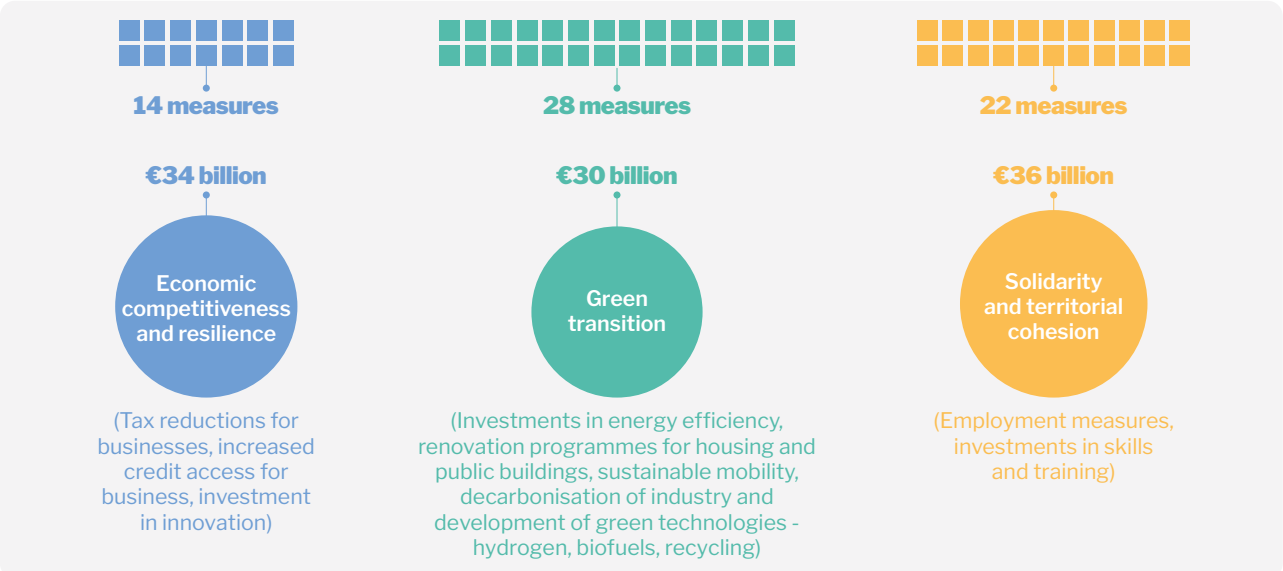


Figure 4: Sectors covered in France's recovery stimulus package by proportion

38 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B

39 An approximate conversion based on an exchange rate of €1: US$ 1.13. All further Euro to US dollar conversions in this study are converted at this rate.

40 https://www.accountancydaily.co/whats-inside-frances-covid-recovery-eu100bn-plan

Table 5: France: measures expected to have a positive impact on natural capital:

Measure	Budget (in € millions)	Budget (in US$ millions)
Economic competitiveness and resilience	**Total: 0**	**Total: 0**
Green transition	**Total: 25 480**	**Total: 28 826**
Trains and rail network	4 700	5 317
Energy efficiency in public buildings	4 000	4525
Support for the development of key markets in green technologies: hydrogen, recycling and reincorporation of recycled materials, biosourced products, etc.	3 400	3846
New Bpifrance (the French Public Investment Bank) climate products	2 500	2828
Energy efficiency in private buildings	2 000	2263
Developing green hydrogen	2 000	2263
Supporting the demand for green vehicles under the automobile recovery plan	1 900	2150
Decarbonisation of industry	1 200	1358
Densification and urban renewal	650	735
Energy efficiency in public administration buildings	500	566
Energy efficiency for SMEs	200	226
Electrifying ports	200	226
Electrifying public vehicles	180	204
Transformation of the agricultural sector (organic products, short circuits, etc.)	400	453
Ecological restoration, risk prevention and resilience	300	339
Water networks and modernisation of wastewater treatment plants, including in overseas territories	300	339
Modernisation of sorting/recycling centres and waste recovery	274	310
Renewal of agricultural equipment	250	283
Investment in recycling and reuse (including support for the plastics sector)	226	256
Helping forests to adapt to climate change for mitigation	200	226
Plant-based proteins strategy	100	113
Solidarity and territorial cohesion	**Total : 50**	**Total : 57**
Support for the development of sustainable tourism	50	57
Total	**25 530**	**28 883**

Many of the measures that are expected to have a positive impact are under the green transition category, and many of these measures are related to climate mitigation. Within this category, the plan allocates only a small portion of its budget to conservation and restoration actions (five measures, amounting to approximately €1,226 million [US$1,387 million]). These five measures are: the plant-based proteins strategy; helping forests adapt to climate change for mitigation; investment in recycling and reuse; ecological restoration, risk prevention and resilience; and transformation of the agricultural sector. There is no mention of any activities based on NBS.

Of the positive measures, three specify support to the overseas territories: Ecological restoration, risk prevention and resilience, to "finance ecological restoration of highly damaged ecosystems, protected areas, measures to prevent coastal erosion, including in overseas territories"; "Water networks and modernisation of wastewater treatment plants, including in overseas territories"; and "support for local development actions, particularly in the overseas territories".

Although listed among the measures expected to have a positive impact, the transport infrastructure actions are very likely to cause habitat fragmentation and affect biodiversity by preventing animal movement and plant dispersal. Thus, a key recommendation is that the government should monitor the implementation of activities within ecological and wildlife corridors in order to link the divided areas and prevent negative impacts on natural capital.

Table 6: France: measures expected to have a negative impact on natural capital

Measure	Budget (in € millions)	Budget (in US$ millions)
Economic competitiveness and resilience	**Total: 20 832**	**Total: 23 568**
Reducing company taxes	20 000	22 626
Supporting the air industry	832	941
Green transition	**Total: 2 600**	**Total: 2 941**
Recovery plans for the aeronautics and automotive sectors	2 600	2 941
Solidarity and territorial cohesion	**Total: 0**	**Total: 0**
Total	**23 432**	**26 509**

With a cost of €20 billion [approximately US$23 billion] (20% of the total budget), reducing company taxes is the largest action of the *Plan de relance*. This measure is supposed to support French companies and industries' competitiveness. France is often seen as a country where the number and level of company taxes, which limit competitiveness, is too significant. Consequently, the French government decided in 2020 to reduce company taxes for the next two years by €10 billion a year (€20 billion in total). Even if this measure is not directly aimed at environmentally harmful sectors, it will reduce government revenue and its capacity to finance biodiversity conservation, which still depends strongly on public funding. In addition, this measure will include tax reductions for environmentally harmful or friendly products. It is, therefore, a missed opportunity for the integration of green conditionalities or more targeted green fiscal reform and rebalancing measures. The French government should, in the short run, add environmental conditions to industry and company support measures.

Table 7: France: measures with an undetermined impact on natural capital:

Measure	Budget (in € millions)	Budget (in US$ millions)
Economic competitiveness and resilience	**Total: 7 732**	**Total: 8 747**
Strengthening the equity capital of SMEs and MSEs	3 000	3394
Aid for innovation, innovation projects in strategic sectors	1 950	2206
Relocation: securing critical supplies	600	679
Equity investments	500	566
Relocation: support for industrial projects in territories	400	453
Digital upgrading of SMEs and MSEs	385	436
Modernisation of the national road network and strengthening of bridges	350	396
Preservation of R&D employment	300	339
Support for export business	247	279
Green transition	**Total: 1 850**	**Total: 2 093**
Developing daily mobility	1 200	1 358
Transport infrastructure development	550	622
Fishing, aquaculture, fish trade	50	57
Strengthening the resilience of electricity networks	50	57
Solidarity and territorial cohesion	**Total: 250**	**Total: 283**
Support for local development actions, particularly in the overseas territories	250	283
Total	**9 832**	**11 123**

This table lists 14 measures that were classified as unable to assess. These measures represent approximately €10 billion [approximately US$ 11 billion] (11% of the total recovery budget).

It was difficult to assess the impact that these measures would have because their impact will strongly depend on their implementation. For example:

- The business support measures could be providing support to environmentally damaging companies, representing negative impacts for natural capital. However, not enough information is available to understand which businesses are being supported.
- Transport infrastructure actions, as noted above, can increase land-use change and habitat fragmentation.
- Increased support for the fishing industry can lead to overfishing.

However, if implemented carefully, some of these measures could have a positive impact on natural capital. For example, the French government could add environmental conditions to the measure on fishing, aquaculture and fish trade in order to encourage the use of selective fishing methods or reduce the impact of bottom trawling. This would ensure support to the sector without providing harmful incentives.

Table 8: France: measures expected to have a neutral impact on natural capital:

Measure	Budget (in € millions)	Budget (in US$ millions)
Economic competitiveness and resilience	**Total: 4 617**	**Total: 5 223**
Support for the development of key sectors: digital and health	2 600	2 941
Digitisation of public services (schools, justice, culture)	1 500	1 697
Support for the space sector and funding of dual space research[41]	515	583
Support of the cultural and creative sectors	2	2
Green transition	**Total: 450**	**Total: 509**
Modernisation of slaughterhouses, biosecurity in livestock farming	250	283
Nuclear: development of skills, industrial investments, modernisation in subcontracting	200	226
Solidarity and territorial cohesion	**Total: 28 706**	**Total: 32 476**
Long-term training for employees in part-time working	7 600	8 598
Investments in the health sector	6 000	6 788
Recovery plan for the Banque des territoires[42] (construction of social housing, land for small businesses)	3 000	3 394
Aid for apprenticeships and professionalisation contracts, civic service	2 700	3 055
Financing the higher education, research and innovation ecosystem and promoting research (PIA)	2 550	2 885
Training for the professions of the future	1 600	1 810
Youth support	1 300	1 471
Strengthening the means of intervention and support of France Compétences and Pôle Emploi (vocational training schemes)	1 000	1131
Investment programme in skills/digitisation of training	900	1 018
Increase in the back-to-school allowance, €1 university restaurant ticket	600	678
Development of digital technology throughout the territory (very high speed, digital inclusion)	500	566
Strengthening the resources of the National Research Agency	400	453
Support for associations helping vulnerable people and development of emergency accommodation	200	226
Renovation of city centre shops	150	170
Recruitment bonus for disabled workers	100	113
Internships of excellence	50	57
Support for projects in the health security sector, access to a vaccine	50	57
Support for local authorities: revenue guarantees and direct support for local investment	5	6
Hiring incentives	1	1
Total	**33 773**	**38 208**

41 Defined as "technologies and skills needed for future dual space capabilities with new projects directly linked to the national industrial fabric in the field of telecommunications, earth observation and space surveillance" Source: France Relance: the first winners of the space component (aircosmosinternational.com)

42 Set up in 2018, Banque des Territoires is a French public financial institution which mobilizes 20 billion euros per year to finance the projects of local authorities, local public enterprises and social housing project, with the objective of eliminating social and regional inequalities.

The 25 measures qualified as neutral largely support employment, higher education, and the health sector. These measures are likely to not have any impact (positive or negative) on natural ecosystems, land use change, natural resources consumption and pollution. These measures represent approximately €34 billion [approximately US$ 38 billion] (34% of the total budget).

Overall

The analysis suggests the plan's net impacts on natural capital are difficult to estimate and considers biodiversity has been neglected in recovery plan decision-making. In response to the COVID crisis and the 'yellow vest' movement, the French government mainly decided to support competitiveness by reducing company taxes. To promote economic growth and consumption, the government adopted a supply-side approach to restore the confidence of private actors, households and companies in the context of deep uncertainty. Therefore, a significant proportion of French measures are qualified as neutral or impossible to assess regarding their impacts on natural capital.

As illustrated in Figure 5, only 27% of the budget is expected to have a positive impact on natural capital. 25% of the budget is expected to have a negative impact on natural capital. Eleven per cent of its budget was of undeterminable impact and 36% of the budget qualified as having a neutral impact. An important part of the budget is aimed at environmentally harmful industries such as the air and the car industry, whereas it could focus more on the agri-food industry and its sustainable transition. The pandemic recovery plan misses several opportunities to invest significantly in nature and integrate natural capital into decision-making.

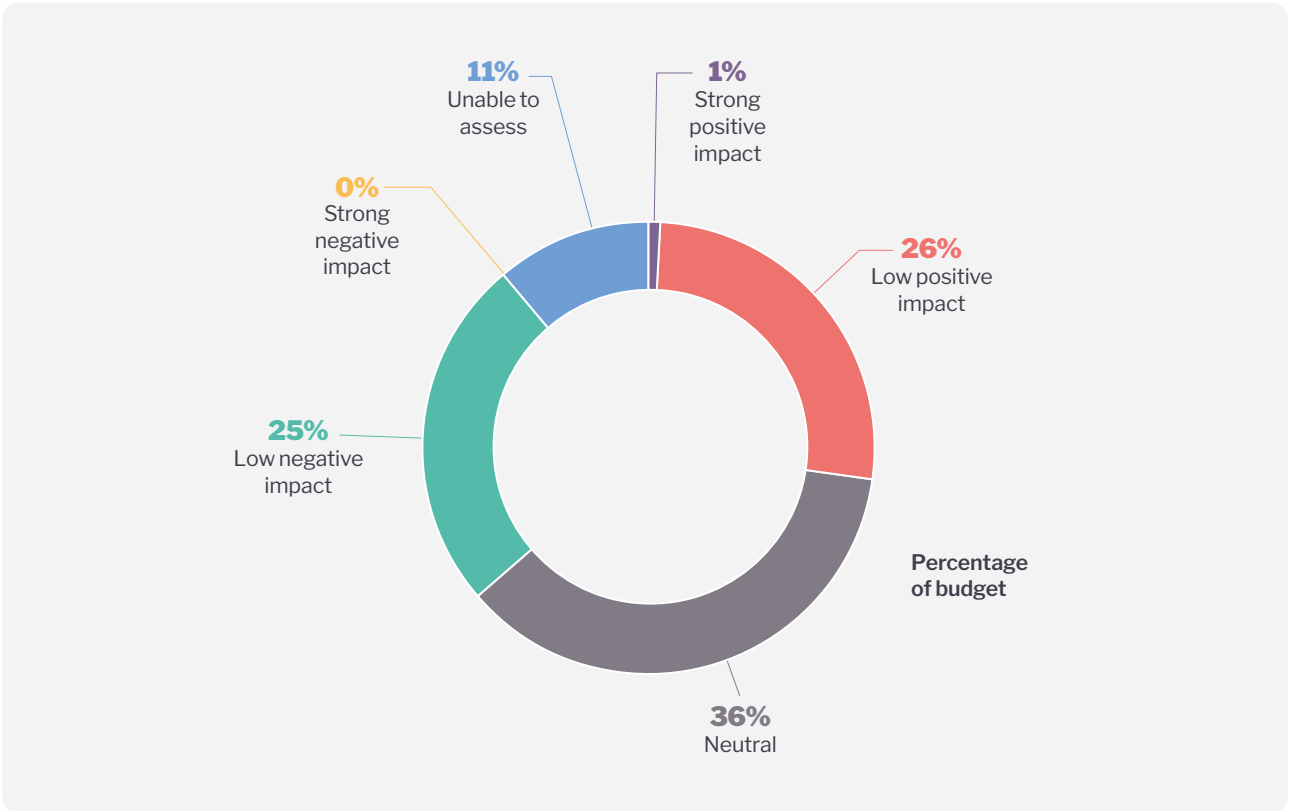


Figure 5: Assessment of the impact on natural capital of the measures in France's pandemic economic stimulus

France's missed opportunities

France's recovery package misses the opportunity to attach green strings and regulations to corporate support. The largest negative measure (20% of the total budget) – reducing company taxes, was implemented to support companies and industrial growth. However, and in keeping with the other budgetary priority of a 'green transition', this measure as part of the 'economic competitiveness and resilience' priority could have significantly benefitted from attaching green conditionalities that require companies to shift practices towards natural capital friendly practices.

In this context, it is notable that the French parliament voted down an amendment to the Amending Finance Law on 17 April 2020 that would have requested companies benefiting from state aid (for example AirFrance-KLM) to report their carbon footprint, a trajectory for reducing their emissions in accordance with the Paris Agreement, and its investment plan to make it concretely happen.[43]

Measures representing approximately 11% of the budget were classified as being difficult to assess for likely impact because the impact would depend on implementation. These measures, including the provision of support to SMEs, investment in innovation, and infrastructure development (which could cause habitat fragmentation), could again benefit from an underlying national vision that ensures that all activities are undertaken in alignment with supporting and strengthening natural capital.

Taking a long-term vision, numerous measures can directly support natural capital and bring broader benefits for the economy, including developing public parks and green spaces and investment in ecological conservation and biodiversity protection. As the project in *parc des Aygalades* discussed above demonstrates, such NbS can be more profitable and effective than human-made infrastructure and support the development of natural capital related jobs. Further, not taking natural capital into account can lead to negative impacts such as the degradation of soil quality, waterways, and biodiversity, can act as significant brakes on growth in France's strategic sectors such as agriculture and tourism and disrupt critical food supply chains. Despite one-third of the focus of the recovery budget being on the 'green transition', these measures focused largely on decarbonisation and did not incorporate biodiversity protection. Natural capital is important for the long-term economic strength of various sectors and will need to be integrated into the vision and definition of the green transition.

43 https://www.osborneclarke.com/insights/french-amending-finance-bill-2020

India[44]

State of natural capital in India

India is a biodiversity-rich megadiverse country, harbouring nearly 7-8% of globally recorded species while supporting 18% of the global human population on 2.4% of the world's land area[45]. India contains 4 of the 36 biodiversity hotspots and the country has a wide variety of ecosystems. Natural capital plays a major role in the country's GDP; for example, forest ecosystems, which make up the second largest land area after agricultural land, generate 57% of rural livelihoods[46]. Given the significant direct dependence on nature and natural ecosystems, the government has developed several programmes to support, maintain and conserve natural capital. As a result, forest cover is increasing, and over 20% of its total geographical area is under biodiversity conservation.

Measures have been adopted for sustainable management of agriculture, fisheries, and forests, with a view to providing food and nutritional security to all without destroying the natural resource base.

However, this is contrasted with the challenges from heavy industry, mining, export of manufactures and minerals, all powered largely by fossil fuels. Air pollution, sewage and sanitation issues and related water pollution, soil pollution and erosion represent some of the most significant environmental crises in the country. For example, a 2013 World Bank report estimated the annual cost of environmental degradation in India amounts to approximately US$80 billion, or 5.7% of GDP each year[47].

Policy responses in the first stage of the pandemic

The first confirmed case in India was reported on 30 January 2020. A national lockdown was brought in for the first wave, followed by a gradual re-opening in late April 2020 with restrictions implemented in select containment zones. The pandemic and lockdown measures caused India's GDP to contract sharply in the second quarter of 2020 (-24.4% year-on-year), with a contraction rate of 7.3% for the overall FY20/21[48]. The growth rates of major economic sectors like manufacturing and services declined, unemployment rates increased substantially, and the wages of the poor declined significantly, including in the informal economy, with almost 400 million people at risk of falling into severe poverty[49]. For the second wave, localised state-wide lockdowns were implemented in most states.

44 See the India country report here: IIED natural capital report DA 2021 (devalt.org) and country study blog here: Driving green economic recovery through… | Green Economy Coalition
45 https://www.cbd.int/doc/world/in/in-nbsap-v3-en.pdf
46 https://nature4climate.org/forest-industry/
47 https://www.worldbank.org/en/news/press-release/2013/07/17/india-green-growth-necessary-and-affordable-for-india-says-new-world-bank-report
48 https://www.economicsobservatory.com/how-has-covid-19-affected-indias-economy#:~:text=The%20recovery%20in%20the%20third,whole%202020%2F21%20financial%20year.
49 https://economictimes.indiatimes.com/news/economy/indicators/about-400-million-workers-in-india-may-sink-into-poverty-un-report/articleshow/75041922.cms?from=mdr

India's central government fiscal support measures can be divided into above-the-line measures, including government spending, foregone or deferred revenues, and expedited spending; and below-the-line measures designed to support businesses and shore up credit provision to impacted sectors. In the early stages of the pandemic response, above-the-line expenditure measures focused primarily on social protection and healthcare. These included in-kind (food, cooking gas), and cash transfers to lower-income households; wage support and employment provision to low-wage workers; insurance coverage for workers in the healthcare sector; and healthcare infrastructure[50].

India's pandemic recovery stimulus package

In May 2020, the Government of India announced a COVID recovery package, known as the 'Aatma Nirbhar Bharat Package' ('self-reliant India') amounting to INR 20,97,053 Crores (approximately US$ 260 Billion, and equivalent to approximately 10% of India's GDP), focusing on five areas: businesses including MSMEs; supporting the poor, including migrants and farmers; agriculture; new horizons of growth; and government reforms and enablers. Figure 6 illustrates the proportion of budget attributed to sectors identified as relevant to natural capital.

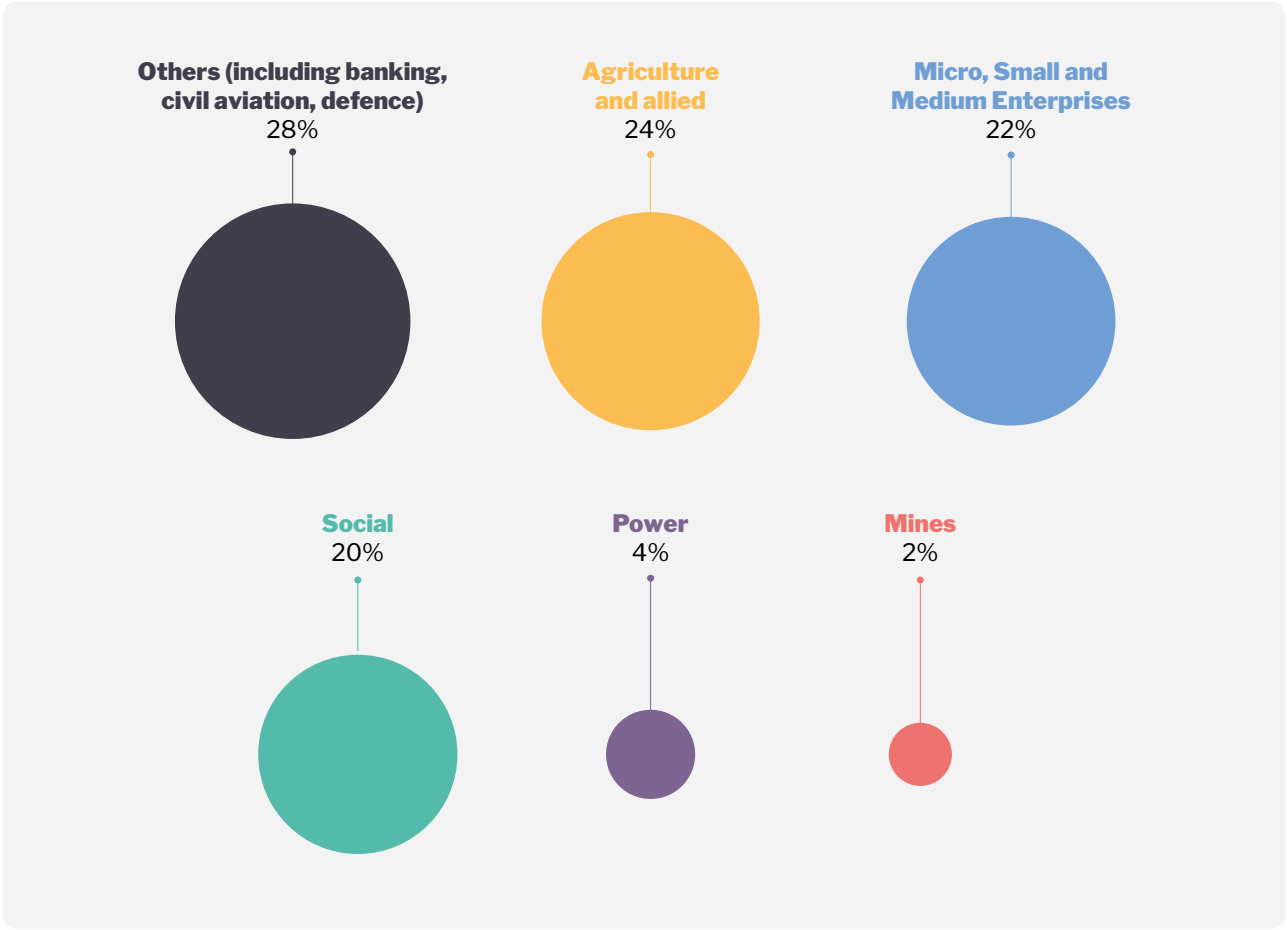


Figure 6: Sectors covered in India's recovery stimulus package by proportion

50 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B

Table 9: India: measures expected to have a positive impact on natural capital

Measure	Budget (in INR Crores)	Budget (in US$ millions)[51]
Agriculture and Allied	**Total: 132 500**	**Total: 17 410**
Agriculture Infrastructure Fund - agricultural cooperative societies, farmer producer organisations (FPOs), and start-ups will be given funds to encourage farm-gate infrastructure	100 000	13 139
Vaccination of cattle, buffalos, sheep, goats and pigs	13 000	1 708
Animal husbandry infrastructure	15 000	1 971
Efficient promotion of herbal cultivation	4000	526
Beekeeping segment	500	66
Power	**Total: 90 000**	**Total: 11 825**
Liquidity injection for power distribution companies (DISCOMS)	90 000	11 825
Social	**Total: 40 000**	**Total: 5 256**
Additional MGNREGS allocation – employment opportunities	40 000	5 256
Total	**262 500**	**34 491**

Of the measures expected to have a positive impact on natural capital, the largest is actions in the agriculture and allied sector. This includes activities related to agriculture, fisheries, animal husbandry, dairy, and the food processing industry. The largest measure was increased investment into the pre-existing Agricultural Investment Fund to drive investment across the agriculture value chain, improve marketing infrastructure and support building community farming assets such as cold chains or other post-harvest storage infrastructure to limit crop loss, wastage and distress selling.

The power sector measure supported power distribution companies to support stability in power delivery. This was identified to have a low positive impact on natural capital. This is because this activity has the potential to reduce the use of polluting materials for lighting (e.g., diesel generators, kerosene lamps, etc.) and cooking (e.g., firewood, kerosene stoves, etc.) by ensuring electricity supply.

In the social sector, the focus was on supporting employment generation through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). This has been identified as having highly positive impact on natural capital. The scheme was introduced in 2005, and has had a successful track record in supporting rural workers. It scheme aims to provide social protection to and empower the most vulnerable communities in rural India by creating employment opportunities, enhancing livelihood security of the rural poor, rejuvenating natural resources in rural areas, creating productive rural assets and strengthening decentralised planning. In setting these these targets, this scheme integrates physical, human, social and natural capital-oriented actions. India therefore chose to invest in a proven scheme, and one which already integrates environmental and equity considerations.

51 Conversion rate used for all INR to USD conversions in the tables: 1 INR to 0.013 USD

Table 10: India: measures expected to have a negative impact on natural capital

Measure	Budget (in INR Crores)	Budget (in US$ millions)
Agriculture and Allied	**Total: 65 000**	**Total: 8 541**
Fertiliser subsidy	65 000	8 541
Mining	**Total: 50 000**	**Total: 6 570**
Coal evacuation – infrastructure development	50 000	6 570
Total	**115 000**	**15 110**

Measures that are expected to have a negative impact on natural capital are the funding of fertiliser subsidies, and in the mining sector, infrastructure development for coal mining and transport. The activities under the coal measures can result in impacts including soil erosion, formation of sinkholes, loss of biodiversity, and contamination of soil, groundwater, and surface water contamination by chemicals, among other impacts.

There are some potentially nature-positive activities that suffered reduced or little support in India's Union Budget for 2021-22. Resources for community-based farming were reduced in the budget. There were no provisions in the budget for micro-irrigation. The budgets for the Solar Charkha Mission, for water quality interventions and for supporting renewable energy and energy conservation were also low. It was notable that funding going to support fossil fuel mining, particularly coal, was much higher. No reason was given for the reduced allocation for these measures in the government's budgetary announcement for the 2021-22 Union Budget.

Photo: Development Alternatives, CC BY 2.0

Table 11: India: measures with an undetermined impact on natural capital:

Measure	Budget (in INR Crores)	Budget (in US$ millions)
Agriculture and Allied	**Total: 278 262**	**Total: 36 562**
Kisan Credit Card – provides farmers (in agriculture, fisheries, and animal husbandry) with timely access to short-term formal credit	143 262	18 824
Pradhan Mantri Kisan Samman Nidhi Yojna (PM-KISAN) – interest subsidies and credit guarantees to farmers' collectives and entrepreneurs	90 000	11 825
NABARD fund – additional emergency working capital fund for farmers	25 000	3285
PM Matsya Sampadana Yojana – to boost fish production	20 000	2627
Micro, Small and Medium Enterprises (MSME)	**Total: 370 000**	**Total: 48 605**
Collateral-free automatic loans	300 000	39 409
Subordinate debt for stressed MSMEs	20 000	2627
Equity infusion through funds of funds – equity funding for MSMEs with growth potential and viability	50 000	6568
Social	**Total: 203 050**	**Total: 26 673**
PM's Poor Welfare Package (PMGKP) – insurance scheme for health workers fighting COVID-19 in government hospitals, health care centres and other related organisations	170 000	22 332
PM announcement for the health sector – compensation of Rs50 lakh for health professionals who, while treating COVID-19 patients, have met with an accident	15 000	1 970
Employees' Provident Fund support for business and workers: regulations were amended to include pandemic as a reason to allow the non-refundable advance of 75% of the amount or three months of the wages, whichever is lower, from their accounts	2 800	368
Reduction in the Employees' Provident Fund rates	6 750	887
Free food grain supply to migrant workers – supply of 1kg of pulses per migrant worker families (according to regional preferences for the next three months) to ensure adequate protein availability	3 500	460
Particular credit facility to street vendors – Bank credit to each street vendor for initial working capital of up to Rs10,000 to facilitate easy access to credit	5 000	657
Total	**851 312**	**111 832**

Photo: Development Alternatives, CC BY 2.0

Several measures across the agriculture and allied, MSME and social sectors have been assessed to have an undeterminable impact on natural capital.

In the agriculture and allied sector, the largest measure is to support the pre-existing Kisan Credit Card Scheme under the National Bank for Agriculture and Rural Development (NABARD), which provides farmers in the agriculture, fisheries and animal husbandry sectors with timely access to short-term formal credit at low interest rates. This scheme is assessed as undetermined impact because it does not discern between approaches to agriculture, fisheries or animal husbandry. Similarly, the second largest measure, the Pradhan Mantri Kisan Samman Nidhi Yojna (PM-KISAN) scheme, which provides interest subsidy and credit guarantee to farmers' collectives and entrepreneurs, enabling them to invest more profitably in assets that enhance the value of their produce, is applied irrespective of practice or approaches. As a result, it is not possible to tell whether the scheme would enable an overall positive or negative impact. This is also the case for the additional financing to the NABARD Fund, and to the PM Matsya Sampadana Yojana scheme.

In the MSME sector, under the collateral-free automatic loans scheme, all MSMEs were provided with collateral-free automatic loans. The equity infusion scheme provided equity funding for MSMEs with growth potential and viability. And under the subordinate debt for stressed MSMEs scheme, promoters of MSMEs were given debt from banks, which were infused into MSMEs as equity, aimed to support stressed MSMEs. For all MSME measures, the study categorised that the impact could not be assessed due to the absence of sufficient information on the recipients of the disbursement of funds: these schemes are likely to support enterprises across a range of sectors and activities, and so a net impact is hard to discern.

In the social sector, the largest measure was the PM's Poor Welfare Package (PMGKP), which is an insurance scheme for health workers fighting the pandemic, followed by funding for compensation for health professional treating COVID. Other measures included support through free food grain supply to migrant workers to support an adequate supply of protein, and a credit facility to street vendors to facilitate access to credit.

Table 12: India: measures expected to have a neutral impact on natural capital

Measure	Budget (in INR Crores)	Budget (in US$ millions)
Agriculture and Allied	**Total: 10 000**	**Total: 1 314**
Formalisation of micro-food enterprises	10 000	1 314
Social	**Total: 129 600**	**Total: 17 025**
Housing Credit Linked Subsidy Scheme (CLSS-MIG)	70 000	9 196
Reduction in tax deducted at source (TDS)/ tax collected at source (TCS)	50 000	6 568
Viability Gap Funding	8 100	1 064
MUDRA Sishu loans – business start up loans	1 500	197
Total	**139 600**	**18 388**

Measures that were assessed as having a neutral impact included the formalisation of micro-food enterprises, and several social measures: the reduction in tax deducted at source and the tax collected at source; the MUDRA Sishu loans, which are available to business owners who need small amounts of capital for use for various purposes including for working capital, modernisation, expansion, equipment purchases or renovation; the housing CLSS-MIG – the Credit Linked Subsidy Scheme, which, the Government of India has launched under the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), available to urban areas under the ambit of Pradhan Mantri Awas Yojana; and the Viability Gap Fund for social infrastructure projects, which was increased by up to 30% of the total project cost.

Overall

The analysis suggests the package's net impacts on natural capital are difficult to estimate and considers natural capital has been neglected in both the recovery package and the (at the time of analysis) upcoming Union Budget 2021/22. As illustrated in Figure 7, only 18% of the budget is expected to positively impact natural capital. Some 24% of the budget is expected to have a negative impact on natural capital, while 39% of its budget was of undeterminable impact and 11% of the budget qualified as having neutral impact.

In the annual budget (Union Budget 2021/22) announced by the Government after the announcement of the recovery package, allocations were missing or lower for capital expenditures that determine the scope for long-term capital investment for certain kinds of projects (water resource development, afforestation, infrastructure development for sectors with positive natural capital influence, and others). The areas of agriculture and allied industries, power, MSMEs, and social welfare that were prioritised in the pandemic recovery package were not continued in the annual budget.

In the pandemic recovery stimulus package, the government's primary objective was to provide social security, secure livelihoods, generate employment, ensure the provision of basic needs, and boost the economy. The measures taken in the stimulus thus focused largely on short term goals, with an underlying business-as-usual vision. No specific emphasis was placed on sustaining natural capital as a driver to strengthen the economy, which can be achieved in the long run. Hence, no substantial improvement in approach was observed in terms of natural capital.

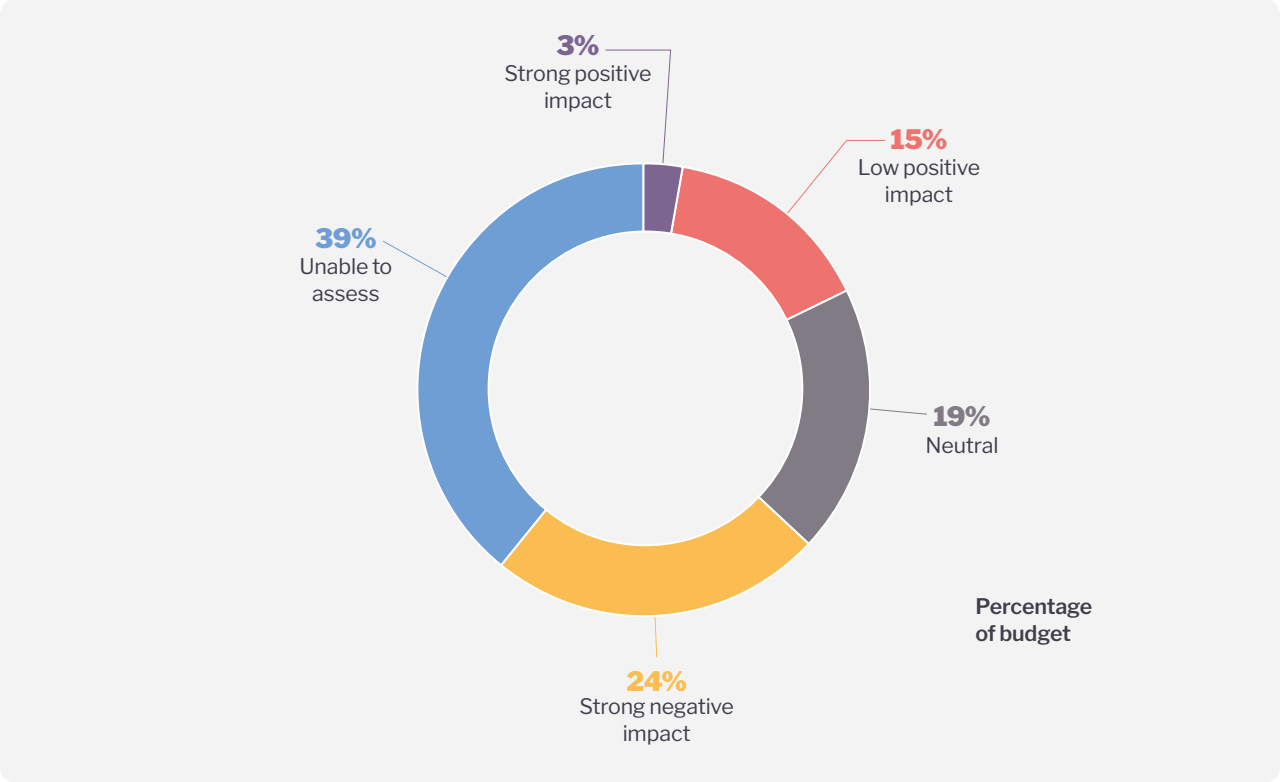


Figure 7: Assessment of the impact on natural capital of the measures in India's pandemic economic stimulus

India's missed opportunities

India's recovery package supports measures such fertiliser subsidies that are expected to have a negative impact on natural capital; these could have been shifted to support natural capital by supporting only organic fertiliser. Another negative measure is infrastructure development for coal evacuation, which can have significant negative impacts on the environment. The government needs to build in activities and funding to reduce the impacts of this measure, including related environmental conservation and ensuring justice for affected local communities. A longer-term shift away from this type of mining activity would require a broader shift in government priorities towards cleaner energy sources and away from fossil fuels.

India's recovery package also had numerous measures where the impact could be positive or negative depending on how they will be implemented. These measures range across the agriculture, MSME, and social sectors. There are several areas where an underlying vision or priority to strengthen natural capital could help shift the approaches supported. For example, in the agricultural sector, in addition to the issues of using non-organic fertilisers, support is needed for strengthening community-based farming institutions and expanding agricultural post-harvest infrastructure. The lack of this infrastructure limits the farming community's ability to contribute to natural capital by adopting practices that increase crop productivity and sustainably manage land and water resources. Therefore, agricultural support could usefully focus on these gaps rather than supporting practices or approaches that are harmful to natural capital.

Uganda[52]

State of natural capital in Uganda

Uganda is one of the most naturally endowed biodiverse countries in the world with a plethora of ecosystems and flora and fauna (including forests, wetlands, fisheries, and endangered wildlife) [53]. Natural capital is a key base of Uganda's economy, as indicated by the economy's sectoral composition, employment, and exports. The highly organic agriculture sector accounts for about a quarter of GDP (24% in 2020), 40% of exports, and employs 66% of the population[54]. Tourism, which accounts for 7% of national GDP, is largely driven by conservation areas such as national parks and game reserves, which receive a high number of tourists, and high tourism revenue and foreign exchange.

The current state of Uganda's natural capital is worrying due to indiscriminate loss triggered by population pressure, income poverty, agriculture expansion, industrialisation, sporadic urbanisation and low budgetary allocations. For instance, forest coverage declined from 24 in 1990 to 12% by 2020 and wetlands coverage fell from 15.5% to 8.9% over the same period.

Uganda has developed natural capital accounts in a number of sectors, including land and forests, wetlands, fisheries[55], water, and tourism. These accounts are not yet complete, and where they exist, they are nascent. Budget allocations to support the data for accounts are small. For example, stock monitoring of fisheries is only undertaken for the largest water body, Lake Victoria, and not for other water bodies because of financial constraints. Improved understanding of natural capital is slowly translating into changes in budget allocations. Construction of these accounts is being led by selected government agencies, including the National Planning Authority, Ministry of Finance, Planning and Economic Development, Uganda Bureau of Statistics, National Environment Management Authority and the Ministry of Water and Environment – and all work to a national plan for environmental economic accounting, based on the System of Environmental-Economic Accounting (SEEA) of the UN. This cross-agency involvement has been crucial for ensuring agency of the accounts – ensuring that the accounting system will be actively used. The involvement of the Bureau of Statistics is also important for embedding natural capital accounting within the national statistics accounting and other mainstream monitoring and evaluation systems.

Photo: Mick Haupt via Unsplash

52 See the Uganda country report here: PRS105.pdf (acode-u.org) and study blog here: Greening Uganda's COVID-19 recovery:... | Green Economy Coalition

53 https://www.cbd.int/doc/world/ug/ug-nbsap-v2-en.pdf

54 https://www.ubos.org/wp-content/uploads/publications/11_2020STATISTICAL__ABSTRACT_2020.pdf

55 https://www.unep-wcmc.org/system/comfy/cms/files/files/000/001/895/original/Fisheries_Resource_Accounts_for_Uganda_Final_Report_June_2021.pdf

Policy responses in the first stage of the pandemic

The first confirmed case in Uganda was reported on 21 March 2020[56]. In the financial year 2019/20, two supplementary budgets increased the spending envelope for critical sectors and vulnerable groups by about US$270 million, of which around US$76 million is estimated to have been executed. Pandemic-related spending was further increased by US$30 million through budget reallocation, and through US$70 million in tax measures. Uganda also secured US$491.5 million in emergency financing from the International Monetary Fund under the Rapid Credit Facility, and US$300 million from the World Bank under Uganda COVID-19 Economic Crisis and Recovery Development Policy Financing.

The fiscal support has included, among others: additional funding to the health sector, including for medical equipment, masks, test kits and vaccines; support to households, including food for the vulnerable and funding for agriculture inputs and entities that support the sector; employment support, such as through the EMYOOGA initiative; support to firms, including in the form of waived interest on tax arrears, deferred payments of Pay-As-You-Earn and corporate income tax and the expedited repayment of VAT refunds; the expansion of labour-intensive work programmes; acceleration of the development of industrial parks; clearance of arrears; import substitution and export promotion by providing funding to Uganda's Development Bank and recapitalising the Uganda Development Cooperation[57].

Uganda's pandemic recovery stimulus package

The COVID-19 pandemic coincided with Uganda's medium-term planning transition period where the second five-year National Development Plan (NDPIII 2015/16-2019/20) was ending, paving the way for the third National Development Plan (NDPIII 2020/21-2024/25). This provided a window of opportunity to integrate COVID-19 response in the new medium-term plan. As such, unlike other countries, Uganda has no standalone COVID-19 recovery plan. Rather, its response is part of the mainstream annual National Budgeting, which currently implements the third National Development Plan (2020/21-2024/25). Accordingly, the last two national budgets for financial years 2020/21 and 2021/22 were restructured and dubbed 'COVID-19 recovery budgets' in a bid to cushion and resuscitate the economy from the impacts of the pandemic. Uganda's national budget for the financial year 2020/21 amounted to US$12.2 billion. The budget had three key objectives: (i) improving the wellbeing of Ugandans, (ii) boosting economic transformation, and (iii) improving peace, security and good governance.

Photo: Malcolm and Amanda via Flickr, CC BY-NC 2.0

56 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7247991/
57 https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#B

Figure 8: Sectors covered in Uganda's recovery stimulus package by proportion

Table 13: Uganda: measures expected to have a positive impact on natural capital

Measure	Budget (in US$ thousands)
Water	**Total: 444 000**
Lands, Housing and Urban Development	**Total: 74 864**
Promote awareness, knowledge and attitudes about sustainable workplaces	
Meetings on the protection of fragile ecosystems and mitigation of climate change	
Implement the sector's Occupational Health and Safety policy	
Works and Transport	**Total: 94 594**
Review and update environmental and social standards for works and transport	
Undertake 60 district environmental audit reports	
Conduct Environment and Social assessment and Environment and Social Management Plan	
Develop 4 regional Environment and Social Management Plans	
Energy and Mineral Development	**Total: 324 324**
Develop 4 quarterly Environment and Social Impact Assessment Reports	
Review 8 Environment and Social Impact Assessments	
Harmonise health, safety and environmental issues with national programmes	
Substitute wooden electricity poles with alternative materials	
Ensure sustainable waste management and disposal during project implementation	
Undertake tree planting, preserve natural landscape, trees and shrubbery	
Tourism, Wildlife and Antiquities	**Total: 165 405**
Mitigate negative impacts caused by activities of oil and gas extraction in wildlife protected areas	
Undertake compliance monitoring, Environment Impact Assessment Review, biodiversity offset guidelines, capacity building and development of monitoring tools	
Develop guidelines for payment of ecosystem services	
Education and Sports	**Total: 10 810**
Develop an environment in education policy	
Organise and celebrate International Environment Day in schools/institutions	
Agriculture, Animal Industry and Fisheries	**Total: 348 000**
Design and construct 2 aquaculture parks to reduce pressure on natural fishery resources	
Provide sustainable land management services to 42% of farmers	
Promote climate smart agriculture	
Total	**1 461 997**

The analysis of the budget found that only 40% of the budget (US$4.86 billion) is likely to impact natural capital positively or negatively. Of that 40%, 70% (US$3.4 billion) of measures were assessed to have a strong positive impact, and 15% (US$ 729 million) as low positive impact[58].

The overall budgetary allocations to the water and environment sector were only 3.7% (US$444 million), and only 2.9% (US$348 million) to the agriculture sector. Other natural capital relevant interventions were identified in sectors such as lands, housing and urban development; works and transport; energy and mineral development; tourism, wildlife and antiquities; and education and sports.

Table 14: Uganda: measures expected to have a negative impact on natural capital

Measure	Budget (in US$ millions)
Agriculture	**Total: 729**
Increase in the number of hectares of land bush cleared from 7,000 hectares to 7,500 hectares	
Prioritisation of crops such as sugarcane among agricultural enterprises, despite their previous impact on environmental degradation with potential to further accelerate environmental degradation. Sugarcane cultivation was at the epicentre of a campaign to convert part of Mabira Forest to a sugar cane plantation in 2007 and is currently threatening to carve out over 4,000 hectares of Bugoma Forest for sugarcane plantations;	
Total	**729**

Fifteen per cent of the US$4.86 billion evaluated as having an impact was assessed as having a negative impact on natural capital. This included measures to increase the number of hectares of bush clearance, and the prioritisation of crops that have a negative impact on the environment, such as sugarcane, the development of which may increase deforestation.

Also notable is that relatively low budgets were assigned to the water and environment sector (3.7%), compared to sectors like works and transport (12.6%) and energy and mineral development (5.7%). Development in these sectors is taking place without respect to natural capital and are therefore causing overall detrimental impacts.

The analysis found that 60% of the budget (US$7.29 billion) was neutral to natural capital, covering recurrent expenditures such as wages, statutory interest payments, non-wage administration, and measures including those in the peace and security sector.

58 Note: The budget figures calculated within the Uganda study for positive and negative measures were based on the proportion of measures in each category against the total budget rather than on the specific budget for each measure, as the necessary granular information was not available.

The 2021/22 annual budget

The annual budget for the following financial year, 2021/22, similarly totalled US$12.1 billion. The 2021/22 budget was given the theme *Industrialisation for Inclusive Growth, Employment and Wealth Creation*. The budget had similar objectives of (i) improving the wellbeing of the population to ensure a healthy and skilled workforce; (ii) restoring the economy back to the 7% medium growth rate and (iii) providing peace, security and good governance.

A review of the budget indicated that 28% (US$3.36 billion) was assessed as impacting natural capital – 12% lower than in the 2020/21 budget. This amounted to 17% (US$2 billion) having a strong positive impact, 7% (US 873 million) having a low positive impact, and 4% (US$437 million) having a strong negative impact. The remaining 72% was assessed as having a neutral impact. The decline in the natural capital relevant budget is to some degree attributed to the decrease in the allocation to the Natural Resources, Environment, Climate Change, Water and Land Management Programme, which fell from 3.7% (US$444 million) in the FY 2020/21 budget to 2% (US$240 million) in the FY 2021/22 budget[59]. Further, the budget is inclined to industrialisation and petroleum development, and there are no resources allocated to procuring adequate equipment for effective monitoring of oil and gas activities for environmental compliance, making these activities more detrimental to natural capital.

Overall

The analysis suggests the annual budget's net impacts on natural capital are positive, although the budget misses several key opportunities. It also finds that positive policies decline in the budget for 2021/22. Illustrated in Figure 9, 34%% of the 2020/21 budget is expected to have a positive impact on natural capital, and 6% of the budget is expected to have a negative impact on natural capital, while 60% of the budget was assessed as having a neutral impact.

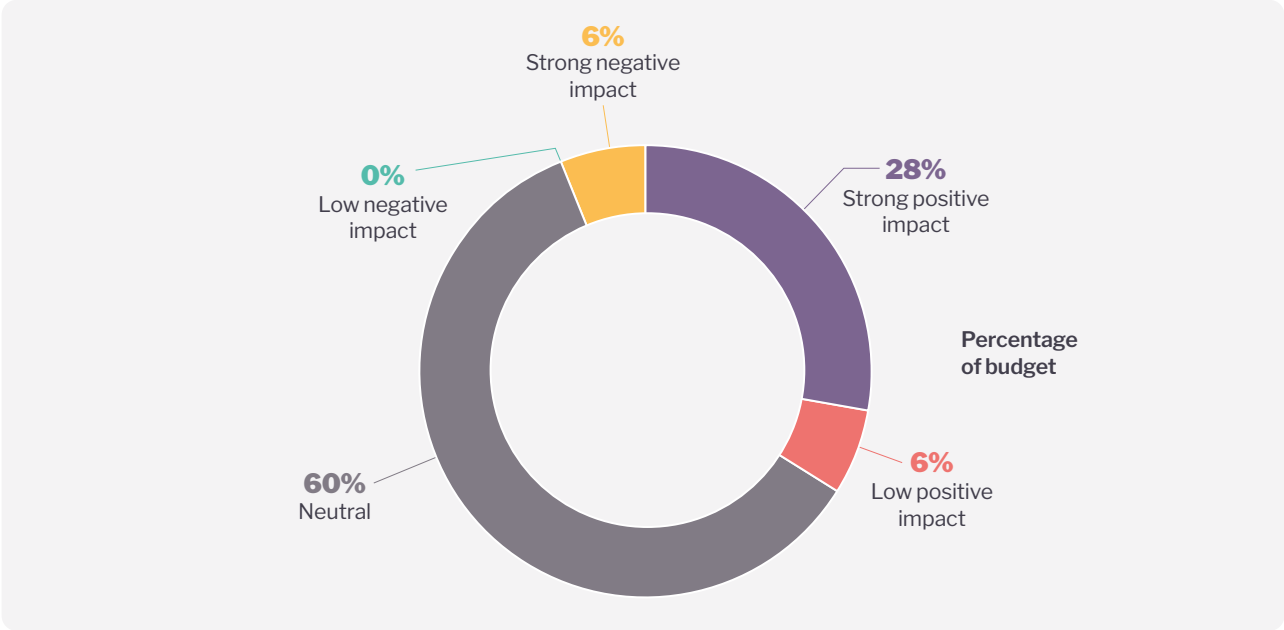


Figure 9: Assessment of the impact on natural capital of the measures in Uganda's pandemic economic stimulus

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Uganda's missed opportunities

Uganda's recovery measures miss the opportunity to support sustainable agricultural practices – the measures to increase the number of hectares of hectares that are cleared and to prioritise crops with negative environmental impacts could have instead usefully been designed to support sustainable practices and crops. This also suggests a need for an underlying natural capital vision or priority area that can help shift measures towards ensuring natural capital is supported.

Longer-term natural capital measures could include direct investment in natural capital and supporting the restoration of degraded ecosystems. However, the economic value of natural capital is still underappreciated, and this is exacerbated by market failures that under-price ecological goods and services.

Natural capital responsive fiscal reforms could foster more accurate valuations and pricing of ecological goods and services. The government could also highlight the benefits of natural capital investment and repackage interventions to ensure that they support and strengthen natural capital, highlighting the spill-over benefits to economic recovery through job creation, food security and poverty alleviation. Examples of such measures include establishing commercial orchards, licensing tree seedling nursery developers and distributors, engaging communities in afforestation activities in degraded forestry ecosystems for a fee and establishing woodlot plantations as biomass energy sources to reduce pressure on tropical rainforests.

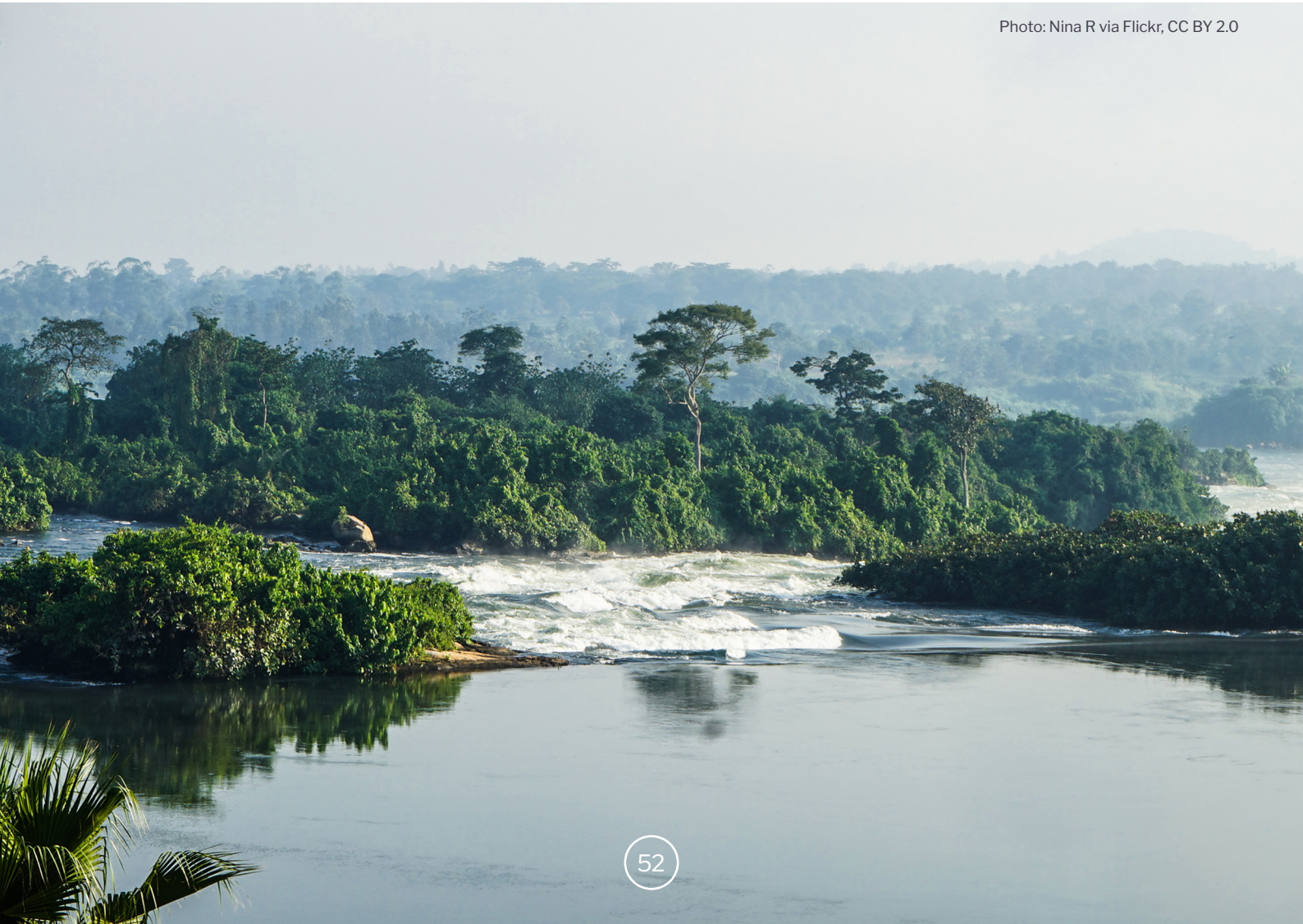

Photo: Nina R via Flickr, CC BY 2.0

Cross-country comparisons and learnings

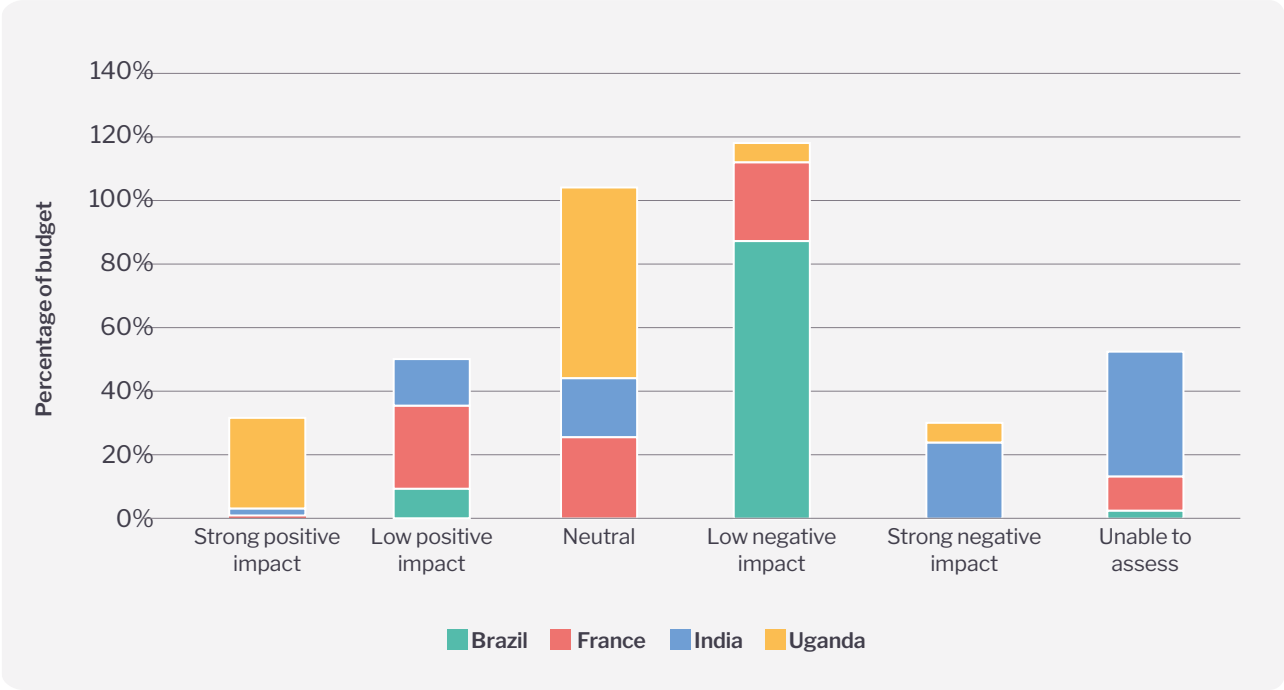

Figure 10: Predicted impact on natural capital from the pandemic economic stimulus plans

Potential impact:

Figure 10 provides a cross-country comparison on the potential impact on natural capital by percentage of budget of the pandemic economic stimulus plans. Notably:

- The analysis expects that a high proportion (88%) of Brazil's pandemic economic recovery stimulus budget will have a low negative impact on natural capital.
- The expected impact on France's pandemic economic recovery stimulus is fairly evenly spread across low positive, neutral and low negative impact.
- The expected impact on India's pandemic economic recovery stimulus is fairly evenly spread across positive, neutral and negative impact, but with a high proportion of measures that are classified as unable to assess.
- The analysis expects that a high proportion (34%) of Uganda's pandemic economic recovery stimulus budget will have a strong positive impact on natural capital, and low proportions of negative impact (6%). Around 60% of Uganda's budget was considered to have a neutral impact.

Coverage of sectors

- **Brazil:** 96% of measures are in the agriculture sector. The remaining 4% is split between support for infrastructure, forests, subnational transfers, research, development and innovation and bioeconomy.
- **France:** measures are split between economic competitiveness and resilience (34%), green transition (30%), solidarity and territorial cohesion (36%).

- **India:** measures are split between agriculture (24%), MSME support (22%), social welfare support (20%) and support to other areas (banking, civil aviation, defence, power and mines) (34%).
- **Uganda:** the budget is split over multiple sectors: works and transport (12.9%), security (9.9%), education (8%), health (6.1%), energy and minerals (5.7%), justice, law and order (4.5%), local government (3.9%), water and environment (3.7%), agriculture (2.9%), public administration (2.9%), legislature (1.5%) and a number of additional sectors each receiving less than 1% of the budget: science, technical and innovation, lands, housing and urban development, tourism, social development, trade and industry.

The sectors covered by pandemic economic stimulus measures vary widely across the four countries. For Brazil, France, and India, a commonality is that the measures are supporting a few sectors that are key current national priorities. In Brazil, funding is highly concentrated on the agriculture and agribusiness sector, which government perceives as the priority. Agriculture and agribusiness is a key sector for Brazil as a leading global exporter of food and feed. The sector contributes around 21.4% to the GDP and represents around 19.5% of employment[60]. France's budget represents their recent security and social crises, including the 'yellow vest' movement which highlighted a widespread frustration with rising government taxes in the face of low salaries and unemployment. Consequently, one of the main objectives of the recovery plan has been to save jobs and prevent social exclusion for vulnerable populations. Measures have focused on supporting industry, preventing the decline of rural and peri-urban areas, the part-time employment scheme, and the financing of education and training. As well as enhancing economic growth, France's recovery plan is trying to reduce further social conflict and foster political stability. A similar focus on priority sectors can be seen in India's budget.

Uganda's budget, however, contrasts with the other countries, with spending spread thinly over a large number of sectors. This may reflect the structure of the plans – where France, India and Brazil's recovery stimuluses were packages designed largely in addition to national budgets, Uganda's stimulus is being implemented via alterations to the annual budget. This being the case, largely even coverage for multiple sectors is to be expected. It may, however also reflect greater clarity in planning and strategy by Uganda, where legal, policy and planning frameworks centred around the environment have been put into place – including the National Environmental Act and the National Development Plan, which devotes a complete programme to the environment and natural resources. Such integration may allow for budgeting to be allocated based on these long-term strategies across sectors and activities. However, as the analysis finds, coordination among actors in Uganda is still lacking, meaning although the plans and strategies are in place, these are not being reflected in decision-making and implementation.

Amount of spending

- **Brazil:** US$10.4 billion in the Brazilian Amazon (approximately 0.7% of GDP)
- **France:** US$113 billion (approximately 4.3% of GDP)
- **India:** US$260 billion (approximately 9.9% of GDP)
- **Uganda:** US$12.2 billion (FY2020/21 budget) (approximately 32.6% of GDP) and US$ 12.1 billion (FY2021/22 budget) (approximately 32.4% of GDP)

60 https://ihsmarkit.com/research-analysis/innovation-technology-brazil-emerges-dominant-agribusiness.html

The packages analysed for each country cover different land areas and jurisdictions, population sizes, scope and coverage of sectors and measures. For some of the countries, the recovery stimulus was presented through clearly distinct recovery packages, whereas for others, recovery stimuli were integrated into annual budgets from the beginning. It is also to be noted that the recovery stimulus has expanded in scope and size over time, so this study captures only the stimuli announced inthe early stages of the recovery period. Each country case study included national recovery plans or measures clearly associated with the pandemic recovery, available as public information, and deemed relevant for this analysis. There may also be measures or plans that have been missed or not covered. Therefore, the figures for the amount of pandemic stimulus spending presented in this study can only provide some context and indication of relative size of measures being discussed within each case study, and does not try to present a full or complete picture.

Broader lessons

1. Recovery plans in each country are missing the opportunity to invest in nature and to integrate natural capital into decision-making. Despite both international and country-specific evidence that investments in natural capital can bring benefits and growth opportunities. In the long term, the degradation of soil quality, waterways, and biodiversity can act as significant brakes on growth in strategic sectors. Protection of natural resources should be considered as an action to support the long-term economic stability of these sectors.

2. Dependence on natural capital means that recovery activities that do not support natural capital will not be effective in the medium or long-term. Natural capital is the most important direct and indirect base for economies. Forestry and agriculture are key sectors for the economies of Brazil, Uganda and India. Budgets for activities that support natural capital have been reduced in the last year. In Brazil, several positive natural capital activities have received reduced budgets, despite the clear importance of natural capital sectors for stimulating the sustainable exploitation of forests. Similar instances of reduced budgets in positive natural capital activities are illustrated with Uganda's FY21/22 budget and India's Union Budget.

3. Alignment is needed across policies, sectors and actors, and over time. There is a clear need for coherent national strategies that can underpin decision-making. This would help ensure, for example, that the short-term policy responses that aim to address the immediate issues and help to boost income, jobs and growth, are doing so with a view to supporting natural capital. Similarly, well-designed strategies can underpin long-term interventions aiming to support reforms and shifts towards long-term objectives, as for example France's recovery measures in support of a green transition, reflecting France's national climate and environmental commitments. The responses in the four countries suggest that such alignment is missing and that short-term or emergency measures are largely having the effect of locking in existing industrial structures or going back to business-as-usual. Similarly, the recovery measures seem to have been guided by current political priorities rather than a holistic assessment of the best spread across sectors. This may point to potential missed opportunities to drive sustainability and the needed transformation across the economy.

4. For many measures, the resulting impact on natural capital depends on how that measure is implemented. In the absence of regulations and standards to guide implementation, the impact of interventions, such as the support provided by banking and capital facilities, could go either way. In the business-as-usual scenario, where environmental regulations and guidelines are not included, many of these activities will likely result in unmitigated negative impacts on natural capital.

5. Similarly, bail outs and subsidies that support business-as-usual without environmental conditionality tend to disguise the full costs of market failures. These businesses largely impact natural capital negatively and, therefore, undermine long-term national economic stability. Publicly funded bail outs disguise these costs by subsidising the environmental externalities of nature-negative economic activity. This has broader negative social and environmental impacts that will prove to be a drain on public funds in the future.

6. Natural capital measures are country-specific. They depend on context, existing environmental, societal, and economic structures, and other location-specific factors. Having a positive impact on natural capital should therefore be guided by principles, not by prescriptive measures: what is useful in one place might not be useful in another.

Country specific contexts were also important in the recovery package - for instance, highly industrialised economies are more likely to have a worse score in terms of green recovery since they are trying to resuscitate sectors or industries with significant environmental footprints. Conversely, less industrialised economies whose expenditures are inclined to organic agriculture, creating enabling environments for economic take-off for their industries, and with a large informal sector, are likely to have a better score since their recovery will still focus on these.

7. In some types of intervention, a lack of clear understanding of how to invest in a nature-positive way impedes improving practices. On an operational level, this translates to knowledge gaps. This leads to a lack of regulations and incentives to ensure that implementation is natural capital positive. Monitoring and evaluation of actions, and the iterative development of solutions can be key for building up an understanding of direct and indirect, and therefore overall impacts of actions. These iterative solutions need to be guided by both natural capital monitoring systems and by consultations with actors from across society at all stages – from developing the intervention to and through its implementation, in order to understand changes in impact on natural capital.

8. Some of the allocations included in the plans will not track to what is eventually released and spent. For example, Uganda saw budget cuts across all government departments as an impact of lower revenues due to the pandemic, affecting what has been committed under the recovery plans. Planned allocations may similarly be reallocated or changed for other such reasons. This analysis has only reviewed the budget plans and not actual spending. Furthermore, without monitoring, evaluation and feedback systems, budget transparency and government facilitation of public participation in these processes, the reduced or reallocated funds and therefore, the approaches that are ultimately supported may have environmentally harmful impacts that are not recorded. This will also make it more difficult to identify and anticipate further possible negative impacts and possible mitigation measures. These environmentally harmful actions may end up costing the country more in the long-term than the short-term gains that the actions bring.

Recommendations

Drawing from the country experiences and the cross-country learning, the study makes the following eight recommendations:

1. Governments should take the opportunity presented by the pandemic recovery stimulus packages to invest in natural capital and to integrate natural capital systematically into decision-making. These investments bring long-term economic benefits and growth opportunities.

- The pandemic recovery phase has presented an unprecedented opportunity for governments to shift national policies and systems to ensure that national natural capital is being protected, restored, sustainably used and maintained. High levels of spending have presented a prime opportunity to go beyond low impact interventions that might create small benefits or add conditions to existing activities that overall are devastating for natural capital. Governments have an opportunity to move towards high-impact interventions that are transformational, for example by supporting shifts of businesses and employment to more natural capital friendly activities, and investing directly in natural capital restoration and maintenance.
- However, research shows that even without the opportunity provided by pandemic stimulus packages, governments must aim to shift all public investments into positive natural capital interventions.
- Ensuring good coordination among government ministries and agencies is key to creating an enabling environment for adopting natural capital positive policies. For example, supporting a low-carbon agriculture model in the Amazon would require engagement from the Ministry of Economy, the Ministry of Agriculture, Livestock and Supply (MAPA), the Brazilian Agricultural Research Corporation (Embrapa), and the state secretariats of finance and agriculture, among others. Such coordination could use existing national platforms, or set up a fit-for-purpose structure, such as a natural capital committee, which could be an official, authoritative and independent body, involving representatives from relevant agencies and non-governmental actors, and have a clear mandate to provide independent advice and oversight to guide government budget and policy decisions[61].

2. Non-governmental actors have a critical role to play in generating evidence and calling for governments to implement policies that support natural capital.

- National civil society organisations have an important role to play in highlighting evidence from local actors on the impacts of damaging policies and advocating for changes in national policy. The research undertaken as part of this study, for example, has helped to build partner capacities for assessing and analysing the available pandemic stimulus budget information and to subsequently use the analysis to advocate for greater transparency and better decision making in the four countries.

61 https://greeneconomytracker.org/policies/natural-capital-committee

- International researchers and research programmes (such as the E4N programme), academia and NGOs have a key role to play in developing further analysis and research that will support national civil society actors with their advocacy by making the case for investing in natural capital at the global, national and local levels. This can involve further exploration in the areas of assessing impacts of existing measures and providing recommendations for how to improve, and broader assessments of how economic decision making can be more transformative in supporting natural capital for the country.

3. Governments should invest in natural capital as a way to drive social inclusion and deliver societal benefits, such as the strengthening of indigenous rights, joint environmental and social protection schemes and improved environmental quality (cleaner air and water for example), and for directing more support to local and national institutions, such as SMEs and Civil Society Organisations (CSOs), and particularly those run by women, young people and other marginalised groups.

- Recovery measures will need to address the social inequalities that the pandemic both exposed and significantly exacerbated. In the response stage, welfare policies attempted to support the most vulnerable groups, but the recovery stage will need to provide more systematic and forward-looking support to enable an effective recovery.
- One approach is to support and scale up existing proven schemes that integrate support for natural capital, as India has done by scaling up the Mahatma Gandhi Rural Employment Guarantee Scheme scheme as part of its recovery package. This scheme has been running for a long time, with proven social, environmental, and economic benefits.

4. Governments should, as a minimum, take steps to mitigate the negative impact on natural capital of decisions based on business-as-usual approaches, through practices like:

- Applying regulations to enforce environmental conditions on industries and companies that are supported by public funding.
- Ensuring that infrastructure investments and delivery adheres to environmental and social safeguards. For example, the development of some transport infrastructure is likely to cause habitat fragmentation and therefore negatively affect biodiversity. In these cases, the government should closely monitor the implementation of activities within ecological and wildlife corridors in order to link the areas divided by such infrastructure to prevent and mitigate negative impacts on natural capital.
- Seeking to implement all measures using approaches that support natural capital. This study found numerous measures for which it was not possible to assess natural capital impact, either because of a lack of public information about the measure, or because the impact would be largely dependent on how the measure will be implemented. Policy makers should provide clearer information on planned measures and seek public input on what works for creating positive impact on natural capital. Where measures are expected to or are starting to have negative impacts, governments should identify and implement mechanisms that could shift the incentives and resulting impacts.

5. Overall, governments should seek to align their support to activities that strengthen natural capital in a transformative manner. Putting nature at the centre of economic decision-making is vital for addressing current health, economic and social crises and ensuring a stable and thriving long-term recovery. This support may be in the form of:

- Investing directly in nature. This could be investments to maintain or conserve ecosystems, such as forests.
- Supporting environmentally-aligned small and medium scale enterprises and value chains, including supporting the development of logistical infrastructure, connectivity, and commercial arrangements to help the commercialisation of native products in an environmentally friendly way, and to foster these products to become commercially viable – as in the case of the bioeconomy in Brazil. Support to environmentally-aligned enterprises may include environmental fiscal reforms that offer tax incentives that enable the enterprises to break even; green production regulations that allow the environmentally aligned enterprises to be competitive against unfair competition from mainstream brown enterprises that do not comply with the regulations; and the integration of green business principles and conditionalities in government bidding and approval processes.
- Phasing out and discontinuing public support for activities that have negative impacts on nature, such as mining and the automotive industry. Mining has been identified as one of the biggest contributors to biodiversity loss.
- Introducing policies that sanction environmentally damaging activities based on principles such as 'the polluter pays' to improve accountability in addressing negative impacts on nature.
- Supporting activities that are beneficial for natural capital rather than exploitative, such as those based on nature based solutions (NBS). Governments should seek to create an enabling environment for these activities and practices, including fostering such activities until they become economically viable. For example, in Brazil, while traditional agricultural techniques are highly damaging for the Amazon because they involve forest clearance, sustainable agricultural methods, like low-carbon agriculture, could be much more positive. The low-carbon agriculture model works by integrating crop-livestock-forest systems and ensuring soil conservation, direct planting systems, and recovery of degraded pastures – all techniques that support the harmonisation of forests and agricultural activities. Decision makers could encourage these practices by providing specific budget lines promoting these activities in local public policies, or by setting targets and minimum amounts in rural credits that support such systems.
- Investing in research, development, and innovation to help develop nature-friendly products, services, approaches, and mechanisms.
- Investing in green infrastructure – which contrasts with grey infrastructure and prevents its damaging effects (floods, landslides, drought, pollution, high energy consumption) and improves the living conditions of local populations. Green infrastructure can be geared to, among other benefits, depolluting rivers, improving air quality, improving access to, and creation of, green leisure spaces, promoting new jobs, and increasing the value of local tourism.
- Creating innovative investment mechanisms through new governance models, involving subnational governments, philanthropic entities and private companies.
- Developing new strategic national plans centred around natural capital, such as the Legal Amazon's Green Recovery Plan, which seeks to redefine the approach to development in the region.
- Developing eco-social policies and programmes, such as green employment creation and livelihood creation programmes, which deliver multiple nature, social and development outcomes.
- Undertaking environmental fiscal reforms, including reducing tax on sustainable and eco-friendly goods and services, including manufactured goods and chemicals which have a positive environmental impact.

6. Governments should continuously monitor the implementation of measures for their impacts on natural capital. This will help ensure transparency of impacts and provide clarity on how and where to mitigate negative impacts as they arise during implementation of activities.

- There is a clear need to rigorously monitor the implementation of measures for their impact on natural capital. Monitoring implementation provides an opportunity to course-correct, if required. Therefore, governments should consider the inclusion of natural capital indicators in the monitoring and implementation of their plans to ensure transparency.
- Governments should also add nature indicators to all monitoring, evaluation and learning frameworks.
- Natural capital accounting can support both the development of a central framework for natural capital and for integrating ecosystem accounting into national accounts.

7. Governments should strengthen their natural capital accounting systems and their capacity to produce, interpret and promote natural capital data. This can help build up a picture of how natural resources contribute to the economy and how the economic activities are impacting on the country's natural resources.

- Governments should develop a national budget tagging system to monitor investment in natural capital with clarity.
- Governments should shift to inclusive measures of wealth at macro-economic level that reflect natural capital as an asset and illustrates the benefits of investment in nature.
- Governments should collect information on natural wealth, entailing an elaborate measure of different types of assets which include renewable and non-renewable resources, human capital, produced capital and financial assets.
- Governments should develop natural capital accounts for all sectors and embed their use in sector decision-making processes.

8. Decision making processes for public spending should include a rigorous appraisal of the intervention's impact on natural capital.

- For most countries, natural capital is critical, especially for certain groups and sectors. It cannot be lost. Governments must understand and remain mindful of the limits that exist within environmental systems and manage regulatory frameworks to ensure that human activities do not breach those limits. They should also introduce regulations enforcing the monitoring and mitigating of anticipated and unanticipated negative impacts on natural capital.
- Methodologies that assess the impact of spending on natural capital should continue to be implemented and refined, to facilitate transparency, to highlight areas and approaches that are key for supporting natural capital, and to support robust decision-making.

Photo: Social Income via Unsplash

References and further reading

For all country case study data and references, please refer to each individual country case study report.

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See the France country report in English here: Integrating Natural Capital into Government Post-COVID Economic Decision-Making - Vertigo Lab and in French here: Évaluation des impacts en France du Plan de relance sur la biodiversité et le capital naturel - Vertigo Lab

See the India country report here: IIED natural capital report DA 2021 (devalt.org)

See the Uganda country report here: PRS105.pdf (acode-u.org)

See also the study related blogs:

Greening Uganda's COVID-19 recovery: walking the talk | Green Economy Coalition

Driving green economic recovery through public policy: The story of India | Green Economy Coalition

Is there still time for a Green Recovery in the Amazon | Green Economy Coalition

Nature at the heart of a green COVID-19 recovery: Global and country perspectives | Green Economy Coalition

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