Tackling the triple crisis

Using debt swaps to address debt, climate and nature loss post-COVID-19

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Even before COVID-19, fears were growing over developing country debt, which had surpassed US$8 trillion by the end of 2019. The pandemic has made the situation much worse as its economic impact pushes millions more women, children and men in these countries into poverty. This paper shows how, as part of pandemic economic rescue packages, governments have an opportunity to address simultaneously the crises of debt, climate and biodiversity destruction through a new use of the system of debt for climate and nature programme swaps. Increasing the use of these types of debt swaps would benefit lender and debtor governments as well as private creditors.

Contents

Summary

This paper introduces the concept of debt for climate and nature programme swaps, highlighting their advantages and potential challenges, indicating ways forward for implementation and setting out how they can become more economically feasible.

It is targeted at both the debt/financial community in the public and private sector and the climate/biodiversity community. Promoting dialogue among these communities will increase the opportunity for major debt relief to support climate and nature goals.

Debt is already a major concern for many developing countries, reaching more than US$8 trillion in 2019. This has been made worse by the economic collapse in the wake of COVID-19, with debt servicing alone estimated to be more than US$3 trillion in developing countries in 2020 and 2021.

Protecting our climate and biodiversity while debt stands at record levels will be critical in the coming years. Post-COVID-19 economic recovery costs could deplete the financial resources needed to address the climate crisis and environmental degradation. Swapping debt for nature and climate protection provides a bridge to greater debt sustainability, potentially benefitting both agendas.

DEBT FOR CLIMATE AND NATURE PROGRAMME SWAPS

Debt for climate and nature programme swaps are where a creditor allows the debt to be reduced – either by conversion to local currency and/or paid at a lower interest rate or some form of debt write-off – and the money saved is used to invest in poverty-reducing climate resilience, climate emissions mitigation or biodiversity protection initiatives. A recent project example of a debt for climate and nature swap is the US$27 million investment in the Seychelles in 2018 for climate resilience, fishery management, biodiversity conservation and ecotourism. While this swap is small-scale, it indicates that there is interest and feasibility in conducting new swaps.

We propose that these swaps shift from projects to programmes through the use of budget support,[1] where funds are paid directly into a debtor government's budget, allowing for a more cost-effective, strategic approach. It is a higher-volume spending instrument than smaller-scale projects – the focus of earlier debt for climate and nature swaps.

The macro-policy context for debt for climate investment swaps is fundamentally different to what it was a decade ago. Rapid technological developments in renewable energy and climate-resilient agriculture, for example, have significantly reduced costs of climate resilience and low-carbon development, increasing returns on investments. On the other hand, a significant share of existing debt accumulated since the International Monetary Fund's debt initiative for heavily indebted poor countries (HIPC Initiative) and the Multilateral Debt Relief Initiative (MDRI) began, in 1996 and 2005 respectively, has not been spent on productive investments or to stimulate productivity – drivers of long-term growth.[2] Swapping unproductive debt for productive investment could provide major gains for both restoring debt sustainability and improving climate resilience.

Many of the most indebted developing countries have a pressing need for investment in programmes to make them more resilient to climate change and to protect biodiversity-rich environments – the places where people most vulnerable to their destruction often live. We present our mapping of such countries in section 3.1. More is now known about how to make climate and nature programme swaps pro-poor. So, improving climate resilience and saving biodiversity can significantly benefit people living in poverty. Climate and nature swaps can have debt relief payments pegged against agreed pro-poor indicators.

Creditors also benefit from these swaps: they can accept a lower debt write-off while contributing to international climate commitments. There are potential beneficiaries of post-COVID-19 debt for climate and nature programme swaps:

- **Ministries of finance and central banks in developing countries** responsible for debt management may receive a more sympathetic response if they can demonstrate increased debt sustainability and contribution to pro-poor climate and nature goals.
- **Climate negotiators** can access new sources of climate finance as debt relief, which will likely dwarf the sums available from the global Green Climate Fund.[95]

- **China**, as the largest bilateral holder of developing country debt and host of the upcoming United Nations Conference of Parties to the Convention on Biological Diversity (CBD), can achieve one of the Convention's key objectives to increase biodiversity finance.
- **Private creditors** who have increased their holdings of developing country debt can fulfil company mandates and wider stakeholder objectives. They can be incentivised to forgive debt by receiving access to existing greenhouse gas emissions credits that have a market value.
- **OECD government creditors** (known as the Paris Club) can identify a new source for climate finance to address their international obligations.
- **Conservation organisations** have led the design of past projects for debt for climate and nature swaps. They can identify large sources of finance through programme approaches with more strategic links to policy and provide technical assistance to make them viable.

Our early analysis suggests that principles underpinning climate and nature programme swaps could:

- Prioritise country access based on climate vulnerability, biodiversity richness, indebtedness and creditworthiness
- Build on experience from previous climate and nature project swaps particularly from the 1990s and 2000s, learning how to address their limitations of constrained country ownership, limited scale, fungibility and high transaction costs
- Learn from previous budget support and development policy approaches, and
- Use existing public expenditure reviews and budgetary systems in setting baselines for measuring change.

A creditor in this case would set the principle for the redirected debt payments to go towards low-carbon, climate-resilient, sustainable investments. The implementation and delivery of those development pathways would be determined by the debtor country channelling the funds transparently through government systems and being accountable to citizens in line with the Paris Principles for Aid Effectiveness.[96] The funds, being channelled through the national budget, would remain in local currency. Learning from existing processes, a whole-of-government approach, which would include relevant government ministries and public agencies, would be taken on spending for low-carbon, climate-resilient, sustainable development. Priorities would be agreed through collaborative in-country processes involving the private sector, civil society, communities and individuals.

Facilitating swaps on a large scale will require complex international coordination as debt is now held by many actors. Several governments and international organisations are well placed to champion the initiative. The IMF has already taken a leadership role in promoting a post COVID-19 green recovery. The UN and World Bank can deploy their sustainable finance and climate expertise. Many of the large conservation NGOs that have pioneered climate and nature swaps at a project level will now need to gear up for a programme-based approach. While they would no longer need to manage debt swap trust funds as in the past, there would be plenty of inputs required for technical support and advocacy and for awareness raising. The European Union with its Green New Deal can incorporate this approach into its development policy. In 2021, the United Kingdom is in a strong position to help facilitate the process as it hosts the G7 summit and the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26). It also has significant influence as a leading financial centre that is home to many holders of private credit and is an active player in past developing country debt relief.

We call on these actors to work with debtors to establish a technical working group, under guidance of an international body such as the World Bank, to develop a comprehensive and coordinated climate and nature programme swaps initiative over the next three years to address the crises of debt, climate change and biodiversity loss. Principles could be outlined in an article similar to the Paris Club's memorandum of understanding on its 2020 Debt Service Suspension Initiative (DSSI).

Engineering new types of swaps that are both financially feasible and stimulate sustainable investment will be a complex and daunting task, but given the tremendous challenge of COVID-19 that is facing the world, they could provide a new template for future debt sustainability and ensure long-term climate-resilient, low-carbon growth.

Triple crisis of debt, climate and biodiversity loss

The world is facing a triple crisis of debt, climate change and biodiversity loss. The impacts of the COVID-19 pandemic on the economic system have increased volatility in developing country markets, where high levels of debt make them vulnerable. The pandemic could severely undermine current responses to these crises, which were already inadequate to address their scale. Systemic change is urgently needed to support debt sustainability through the pandemic and to ensure consistent and long-term progress towards tackling these interconnected and complex global challenges.

1

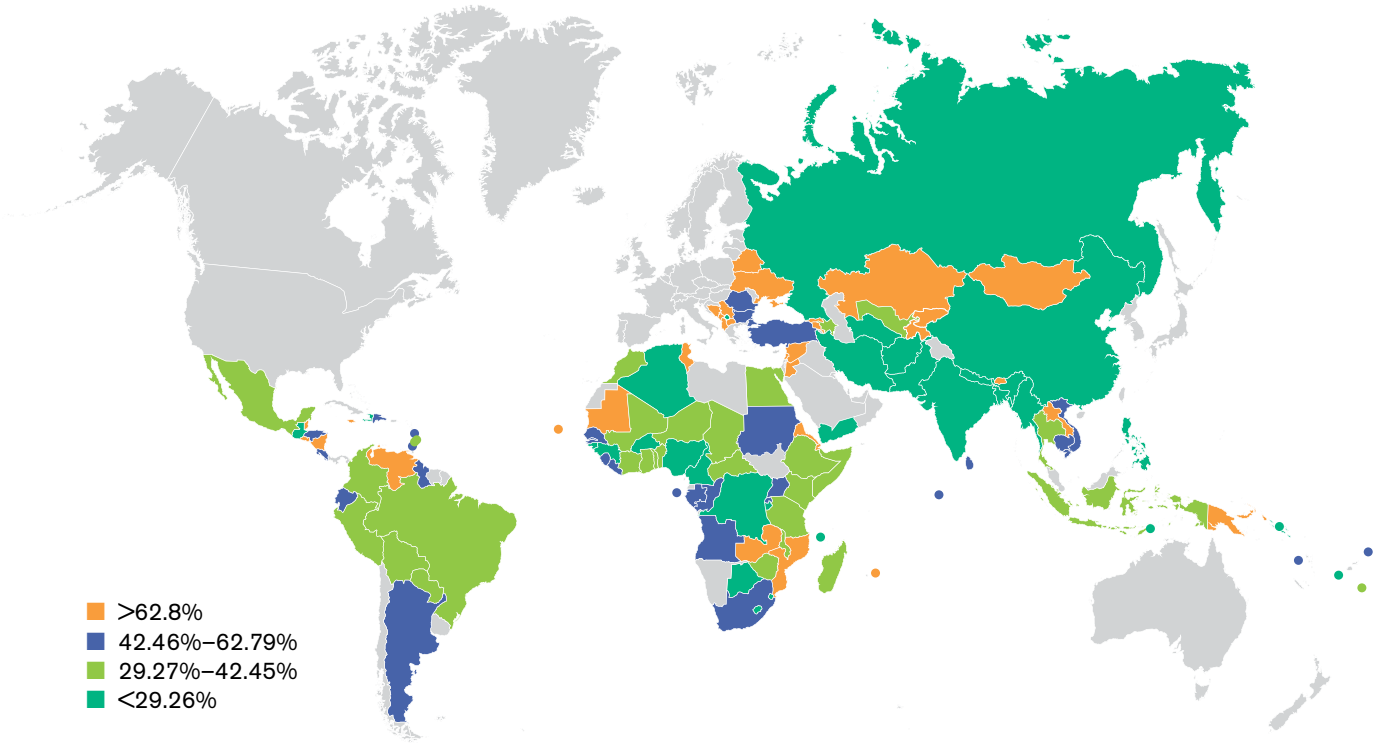
1.1 The debt crisis and COVID-19

Developing country debt was already reaching record levels before the pandemic took hold, totalling more than US$8 trillion at the end of 2019.[3] This represented an increase from around 110% of gross domestic product (GDP) in 2010 to 170% of GDP in 2019. The private sector's share of debt rose particularly fast.[4] Increased borrowing was due to several factors, including low global interest rates since the 2007–09 financial crisis; a rise in the number of regional banks; a growing appetite for local currency bonds; and increased demand for emerging market and developing economy debt from the expanding non-bank financial sector.[4] The IMF's Heavily Indebted Poor Countries (HIPC) Initiative, launched in 1996, wrote off more than US$70 billion worth of debt for almost 40 countries, partly funded through the sales of IMF gold. While it had some shortcomings, this initiative did show that large-scale debt relief was possible with political support. Since the heights of the HIPC Initiative, creditors have become more fragmented and debtors have often not invested their debt relief in productive investment.

Figure 1 maps countries' external debt stocks as a percentage of their gross national income (GNI).[5] This is a measure of total debt in the country owed to non-residents, repayable in currency, goods or services. It is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt. The average external debt stocks in lower-middle-income countries is 54% of GNI, but within this income group, this ranges from 3% of GNI in Algeria, 7% in Timor-Leste and 11% in Eswatini, to 254% of GNI in Mongolia, 158% in Djibouti and 109% in Bhutan. In the low-income group, the average external debt stocks are 37% of GNI, ranging from 11% in the Democratic Republic of Congo, 13% in Afghanistan and 19% in Burundi, to 108% in Mozambique, 68% in Tajikistan and 58% in Rwanda. External indebtedness affects a country's creditworthiness and investor perceptions. Debt ratios are used to assess the sustainability of a country's debt service obligations, but no absolute rules determine what values are too high; what constitutes a sustainable debt burden varies by country. Countries with fast-growing economies and exports are likely to be able to sustain higher debt levels. Various indicators determine a sustainable level of external debt, including the debt to GDP ratio; foreign debt to exports ratio; government debt to current fiscal revenue ratio; share of foreign debt; short-term debt; and concessional debt in the total debt stock.

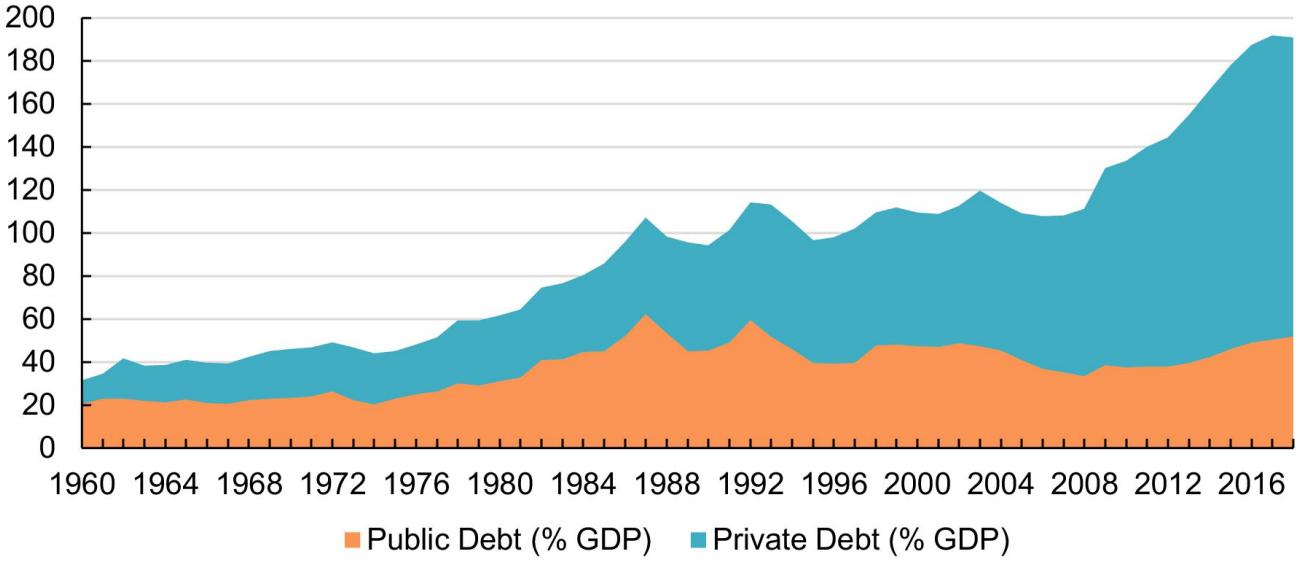
Figure 2 presents the change in total debt stocks in developing countries between 1960 to 2018. It shows that debt has been rising over this period, with the greatest increases in debt coming from rising private sector debt. Public debt had seen rising levels since the

Figure 1. External debt stocks as a percentage of GNI 2018 – presenting an indication of indebtedness



Source: World Bank International Debt Statistics data, 2018[5]

Figure 2. Developing country debt stock as a percentage of GDP, 1960–2018



Source: UNCTAD 2020.[7]

1970s and then controlled in the 1990s, but has been increasing again since 2008. By 2018, on average, developing countries were spending more than 10% of their revenues on debt servicing. This rose to more than 20% in the particularly debt distressed Least Developed Countries (LDCs) of Djibouti, Angola, Mauritania and Lao PDR and several middle-income countries.[7] These debts are expected to increase rapidly in the wake of COVID-19.

The pandemic has placed multiple stresses on the economic system, increasing demands on national health and welfare spending and causing sharp downturns in economic activity and turmoil in global financial markets.[3] It has led to growing fiscal and current account deficits and a shift towards riskier debt, which in turn has resulted in widespread and severe financial stress in several developing country and emerging market economies. The emerging responses to the COVID-19 shock to debt sustainability is explored further in section 2.1.

Lower-middle-income country (LMIC) credit comes from a combination of official Paris Club (bilateral) debt, Chinese official debt, bond holders and commercial creditors and multilateral borrowing:

- The Paris Club is the group of Organisation for Economic Co-operation and Development (OECD) governments that has traditionally provided debt to developing countries. But their share has been falling over the past decade as the contributions from China and private creditors has increased.
- China's creditor position is not transparent. Its debt is channelled through state-owned banks and other enterprises and it is not a member of the Paris Club. There are no reliable data on the exact size and allocation of Chinese debt,[8] but the consensus is that it is the largest official lender to developing countries. Estimates from Brookings (2020) put the volume of Chinese-held public debt in Africa at US$143 billion, or 20% of African debt.[9] But estimates from Horn et al. (2019)[8] suggest that the actual amount could be far greater.
- Private creditors have increased their share of developing country debt in recent years. These creditors are large asset managers, including Farallon Capital Europe LLP, Aberdeen Asset Management PLC, Amia Capital LLP, Ninety One UK Limited, Greylock Capital Management LLC and Pharo Management Inc.
- Multilaterals, such as the IMF and, to a lesser extent, the World Bank, have traditionally provided balance-of-payment support and the IMF is seen as the 'lender of last resort' when all else fails. Thus, during the current COVID-19 crisis, applications to the IMF have soared.

While Figure 2 maps out total external debt as a percentage of GNI, to build a picture of countries' current overall debt levels, Figure 3 presents the external debt sources of long-term public and publicly guaranteed external debt of developing countries at different income levels. This provides a more focused look at the public debt levels – the portion that would be relevant for debt conversions.

The largest source of low-income developing country (LIDC) debt is official multilateral creditors – institutions

such as the World Bank and IMF. The second largest source is official bilateral creditors of which the largest is China. The proportion of both sources declines as income levels increase. The largest source of high-income developing country (HIDC) debt comes from private creditor-issued bonds, which is the smallest source of LIDC debt. This suggests that HIDCs have stronger market conditions and accessibility for private investors. Commercial banks and other private creditors remain smaller sources of developing country debt across income levels. It is notable that the total value of debt in LIDCs is significantly smaller (US$118 billion) than in HIDCs (US$1,375 billion).

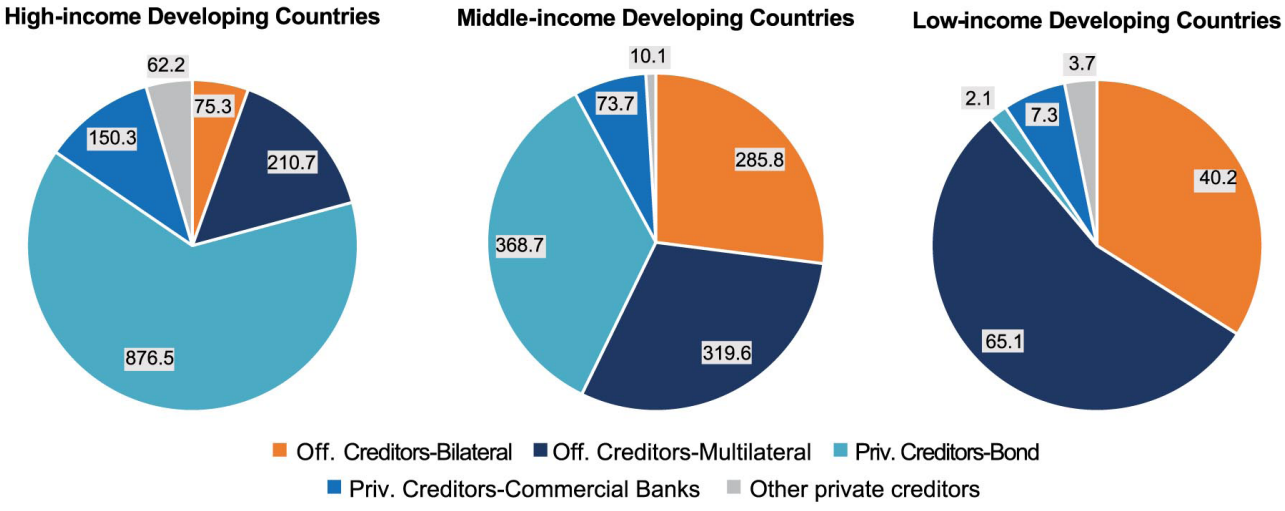
The composition of public debt in low-income countries has increasingly shifted from traditional (official bilateral and multilateral) sources to non-Paris Club bilateral lenders, commercial external debt and domestic debt in recent years. The IMF notes that although the amount and sources of credit for low-income countries have increased, long-term growth is enhanced only if the borrowed funds are used productively, yielding an economic rate of return that exceeds borrowing costs.[10] However, the current borrowing levels have been associated with a drop in public investment in many low-income countries.[11]

Declining rates of return from the use of credit, ie investment, means that the high economic growth rates of low-income countries in the past decade will face a new period of debt overhang. To improve debt sustainability and prevent debt crises, it will be crucial to increase productivity – and thereby long-term economic growth in low-income countries – and to ensure new debt is used productively. Investments in low-carbon, climate-resilient development will increase long-term productivity and support debt sustainability (see section 2.2).

With balance-of-payment crises and fiscal emergencies inevitable as post-COVID-19 exports collapse and tax receipts dry up and printing money (as in OECD countries) is not an option, debt in low-income countries will rocket. In 2020 and 2021, repayments on developing country public external debt are estimated at nearly US$3.4 trillion – between US$2.0 trillion and US$2.3 trillion in HIDCs and US$0.7 trillion and US$1.1 trillion in middle-income and low-income countries.[7] Bilateral official creditors (including China) and commercial creditors will be reluctant to lend more and already more than 100 countries have approached the IMF as the lender of last resort.

The world is facing an acute liquidity crisis, but the high levels of borrowing and economic volatility have created high-risk conditions for triggering a large-scale debt crisis. Low-income countries already have a lower baseline and weaker coping mechanisms at both the national and local levels. By pausing debt repayments in the coming months, as the G20 has done (section 2.1), economies can be stabilised and financial recovery efforts supported. But longer-term solutions, including debt relief, are needed.

Figure 3. Long-term public and publicly guaranteed external debt by creditor, all developing countries, debt stocks at end 2018 (Billions of current US dollars)



Source: UNCTAD 2020.[7]

1.2 Climate crisis

Climate risk is determined by the exposure and vulnerability of a system. Exposure refers to the presence of people, livelihoods, species or ecosystems, environmental functions and resources, infrastructure, or economic, social or cultural assets in places and settings that could be adversely affected. If none of these elements are exposed to climate hazards, there is no disaster risk.[12] Climate vulnerability is the degree to which a system is susceptible to and unable to cope with, adverse effects of climate change, including climate variability and extremes. It is determined by the sensitivity of the system – the likelihood of suffering harm – and the coping capacity or resilience of the system – the capacity to reduce negative consequences.[12]

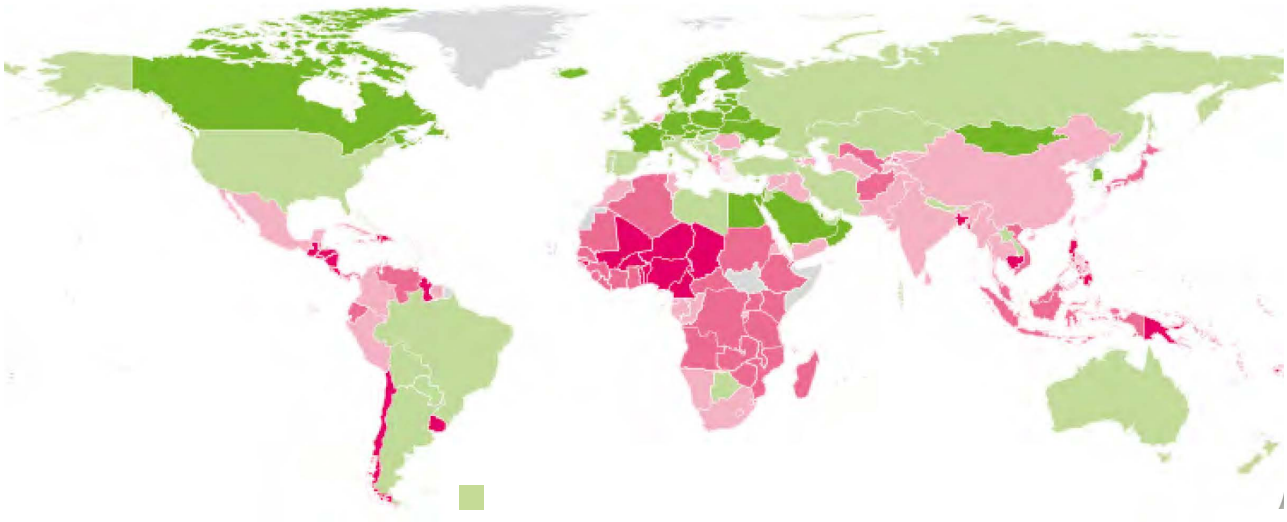
The IPCC's 2018 Special Report on the impacts of global warming of 1.5°C above pre-industrial levels warned that carbon dioxide equivalent emissions would have to fall by around 45% by 2030 to prevent significant climate impacts.[13]

Low- and lower-middle-income countries are on the frontline of climate impacts. These countries are least able to recover from climate stresses and their economic growth is generally highly dependent on climate-sensitive sectors. Climate change impacts threaten to undermine development efforts and increase poverty in these vulnerable countries.

Figure 4 presents the climate World Risk Index, developed by the German Development Aid Alliance.[14] This index captures the measures of exposure (to floods, cyclones, droughts and sea-level rise) and vulnerability (as a sum of coping capacity, susceptibility and adaptation measures and strategies) to assess climate risk across countries. It shows that the countries facing the highest risk of negative climate impacts are lower-income countries that have contributed least to greenhouse gas emissions. The top five countries on the 2019 World Risk Index for overall risk are Vanuatu, Antigua and Barbuda, Tonga, Solomon Islands and Guyana. The Central African Republic, Chad, the Democratic Republic of the Congo, Eritrea and Niger are the most climate vulnerable. Vanuatu, Antigua and Barbuda, Tonga, Brunei Darussalam, and the Solomon Islands are among the most climate exposed.

The United Nations Framework Convention on Climate Change (UNFCCC)[15] acknowledges the

Figure 4. World Risk Index 2019 – presenting an indication of climate vulnerability and risk



WorldRiskIndex (WRI)

very low	0.31–3.29
low	0.30–5.49
medium	5.50–7.51
high	7.52–10.61
very high	10.62–54.71
no data available	

Components of the WorldRiskIndex at the global and local level

Exposure	Susceptability	Coping	Adaptation
Exposure to natural hazards	Likelihood of suffering harm	Capacities to reduce negative consequences	Capacities for long-term strategies for societal change

Natural hazard sphere | **Vulnerability – Societal sphere**

Max. = 100, Classification according to the quartile method
Data source: IFHV, based on the PREVIEW Global Risk Data Platform, Oak Ridge National Laboratory LandScan, CReSIS, CIESIN, NatCatSERVICE and global databases; detailed information at www.WorldRiskReport.org
Source: Bündnis Entwicklung Hilft 2019.[14]

disproportionate contributions to and impacts of the climate crisis in equity clauses that require Annex 1 Parties under the UNFCCC (mainly OECD countries) to provide finance to non-Annex 1 Parties (developing countries). This is defined as climate finance – finance to help developing countries reduce or avoid greenhouse gas emissions (mitigation) and build their resilience to current or future impacts of climate change (adaptation). The UNFCCC process sets a goal of delivering US$100 billion per year by 2020.[15]

The United Nations Environment Programme (UNEP) estimates that developing countries will need US$300 billion for adaptation by 2030; yet in 2016, only US$10 billion was committed.[16] To achieve transformational change in developing countries' climate resilience, a significant increase in adaptation-related climate finance is essential.

Addressing climate change requires systemic change.[17,18] In all of the LDCs adaptation is of far greater importance than mitigation.[19] Adaptation involves supporting structural, financial and post-disaster resilience (including social resilience) in countries, according to their own national context and situations. Countries set out climate plans and strategies to map their climate actions. At the international level, this involves nationally determined contributions (NDCs), national adaptation plans (NAPs) and long-term low-carbon development strategies (LTSs). At the group level, LDCs have adopted a commitment to work towards low-carbon, climate-resilient development pathways by 2030, reflecting the vital importance to them of adaptation and resilience building.[20]

In November 2021, the UK will host the 26th Conference of the Parties to the UNFCCC (COP26) in Glasgow, Scotland. As host, the UK has the mandate to advance global and country action for climate mitigation and climate adaptation. As part of this process it will be using its presidency of the G7 Partnership to take climate action. Both the G7 and COP26 processes could provide momentum for action on debt for climate and nature programme swaps.

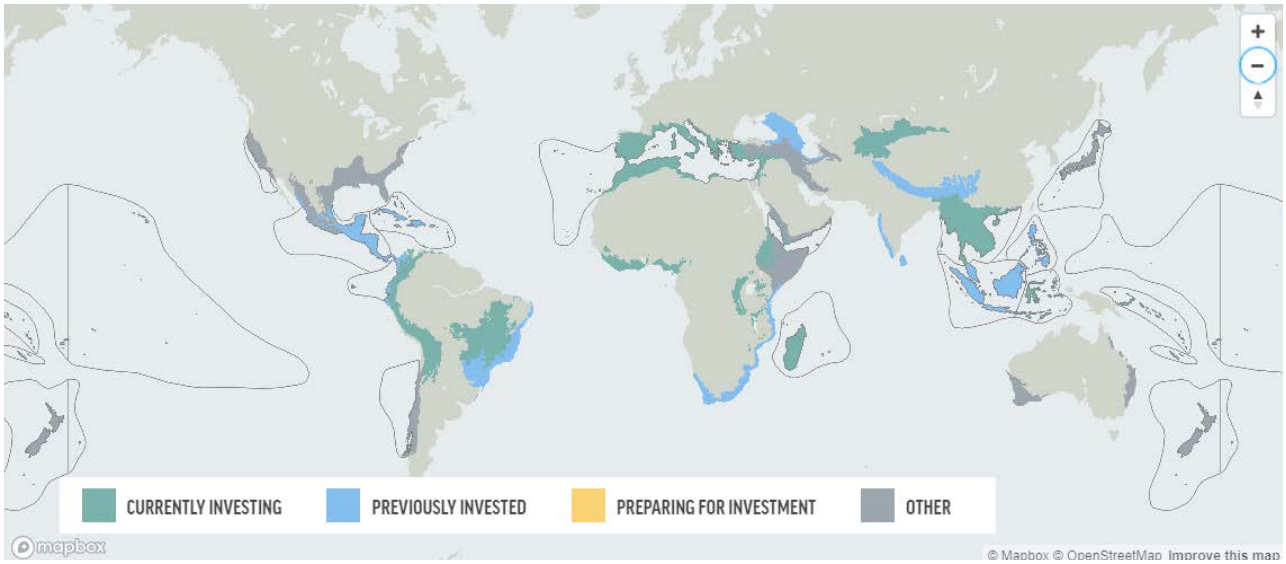
1.3 Biodiversity crisis

The world is facing large-scale ecological breakdown and biodiversity loss on an unprecedented scale. In 2019, the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) estimated that nearly 11.5% of the world's 8.7 million global species are currently threatened with extinction.[21]

Conservation International has identified 36 areas around the world as biodiversity hotspots, representing 2.4% of the Earth's land surface (see Figure 5). Biodiversity hotspots are defined as biogeographic regions with significant levels of biodiversity that are threatened by human habitation.[22] To qualify as a biodiversity hotspot, Conservation International outlines two criteria: the region must have at least 1,500 vascular plants as endemics (ie the region is home to a high percentage of plant life found nowhere else on the planet); and the region must have 30% or less of its original natural vegetation (ie the ecosystem is threatened).

The Global Environment Facility (GEF), a multilateral environmental fund mandated to support developing countries in tackling the planet's most pressing environmental problems, undertook an assessment of global biodiversity. The resulting GEF Benefits Index of 2005, which was updated in 2008, provides a measured analysis of the global state-of-play in relation to biodiversity resources and needs (see Figure 5). The Index is composed of four dimensions: represented species, threatened species, represented ecoregions

Figure 5. Global biodiversity hotspots. Source: CEPF 2020.[23]



and threatened ecoregions. The index incorporated dimensional weights that reflect the consensus of conservation scientists at the GEF, International Union for Conservation of Nature (IUCN), World Wide Fund for Nature (WWF) and other NGOs.[24] See Annex 2 for further details of the index). The ten highest ranked countries in terms of biodiversity potential are: Brazil, the United States, Australia, Indonesia, Mexico, China, Colombia, India, Japan and Russia. However, when looking at the biodiversity rating in relation to land area, the countries at the top of the list are Bermuda, Tuvalu, Seychelles, Marshall Islands, Northern Mariana Islands, Maldives, Micronesia, São Tomé and Príncipe, Palau and the Cayman Islands. Significantly, all are small island states facing existential threats from rising sea levels.

The 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD), rescheduled to take place in May 2021 in Kunming, China, will develop a new post-2020 Biodiversity Framework. This framework will build on the Aichi Biodiversity Targets[97] – a set of 20 global targets under the CBD's Strategic Plan for Biodiversity 2011–2020. Target 20 calls for a substantial increase in financial resources from all sources to effectively implement the Strategic Plan. A financial goal has yet to be set in the post-2020 Biodiversity Framework but decision 14/22, agreed at the 14th CBD COP in 2018, affirmed that resource mobilisation would also be an integral part of the post-2020 global biodiversity framework.[25]

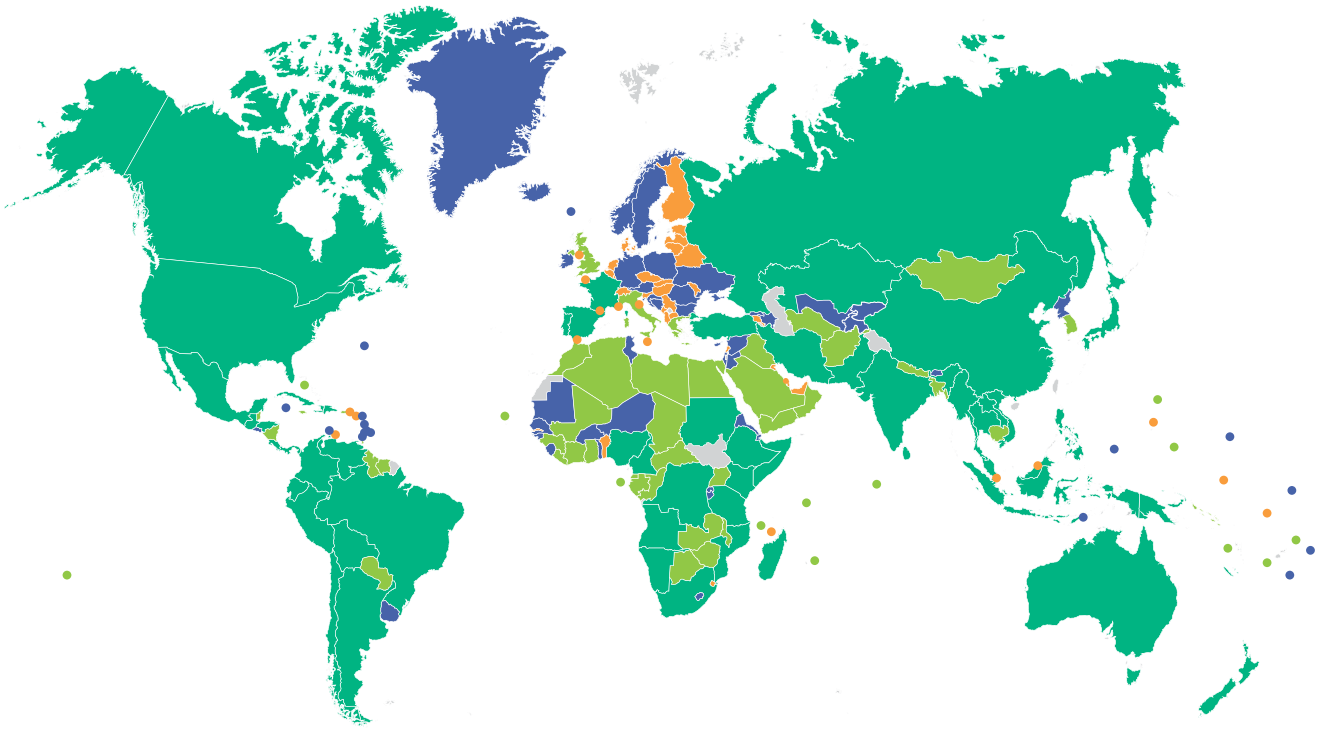
China, as its host and as one of the most biodiverse countries in the world, will have a key opportunity to advance the global biodiversity agenda, including financing biodiversity through debt for climate and nature programme swaps.

1.4 Creditworthiness

Creditworthiness assessments impact the availability of credit for certain countries.

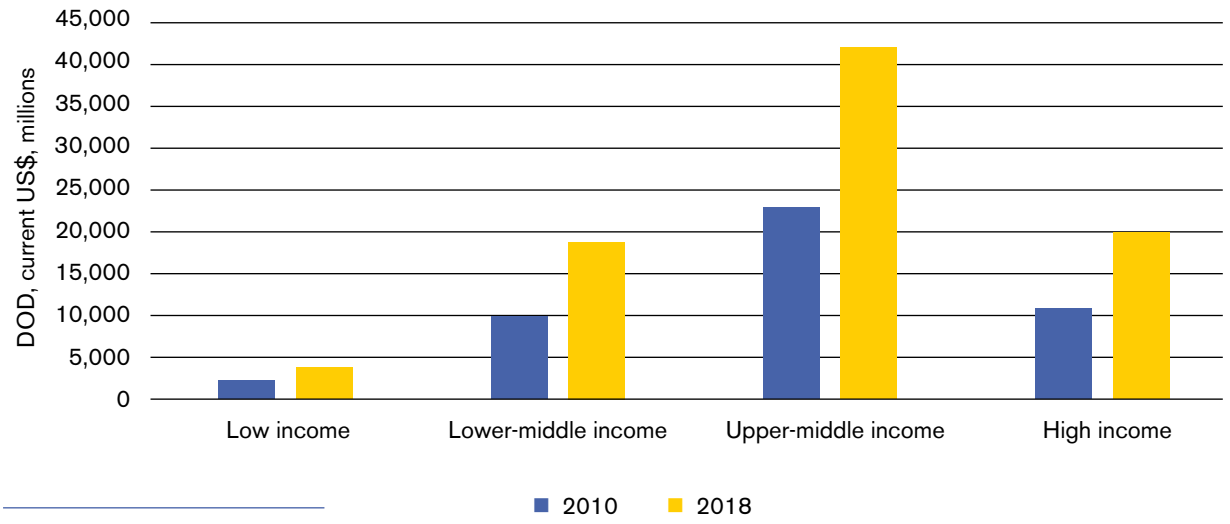
LDCs and fragile and conflict-affected states have some of the lowest levels of accessibility to global credit. Figure 7 shows the average public and publicly guaranteed external debt stocks in 2010 and 2018 per country, by income group. This chart shows that across all income groups, low-income countries hold the smallest amount of external debt and upper-middle-income countries hold the largest amounts. As well as restrictions on the quantity of credit, there are often limitations on the quality; the credit available to such countries is usually offered at much less favourable rates and conditions.

Figure 6. GEF Benefits Index for Biodiversity 2008 – presenting an indication of biodiversity richness



Source: World Bank 2020f.[26]

Figure 7. Average public and publicly guaranteed external debt stocks per country, by income group, disbursed and outstanding debt (DOD),[27] current US$, millions



Source: World Bank 2019 data.[28]

Lenders are reluctant to invest in countries that are at greater risk of default, whether this is related to economic stability, transparency or accountability. Given the limited availability of finance in low-income countries, much of their finance is used to address immediate needs such as infrastructure, which severely limits financing for longer-term and systemic needs like climate resilience.

The World Bank undertakes annual Country Policy and Institutional Assessments (CPIAs) on all countries eligible to receive International Development Association (IDA) financial support. These assessments combine indicators in four areas to assess different aspects of economic health, governance, policy and institutional capacity:

- Economic management (monetary and exchange rate policy, fiscal policy, debt policy and management)
- Structural policies (trade, financial sector, business regulatory environment)
- Policies for social inclusion and equity (gender equality, equity of public resource use, building human resources, social protection and labour, policies and institutions for environmental sustainability)
- Public sector management and institutions (property rights and rule-based governance, quality of budgetary and financial management, efficiency of revenue mobilisation, quality of public administration, transparency, accountability and corruption in the public sector).

The resulting IDA Resource Allocation Index (IRAI) is based on the results of the annual CPIA exercise. It is generated by calculating an unweighted average score for each of the four clusters and then averaging those scores to produce a rating for each country on a scale of 1 (low) to 6 (high) – see figure 8. This then guides IDA resource allocation. IDA resources are allocated to a country on per capita terms based on its IDA country performance rating, portfolio performance and to a limited extent, on its per capita GNI. This is to ensure that good performers receive a higher per capita IDA allocation. The IRAI is a key element in the country performance rating (see Annex 2 for further details).[28,29,30] Those scoring highest include Georgia (4.4), Armenia (4.1), Rwanda (4.0), Samoa (4.0) and Bhutan (3.9). Those scoring lowest include South Sudan (1.5), Somalia (1.8), Eritrea (2.0), Yemen (2.0) and Sudan (2.3).

Financial service organisations such as Moody's produce credit ratings for countries that carry weight for international and national investors. As well as debt default, accepting debt relief packages can affect a country's creditworthiness. Some countries refuse debt relief support because they are unwilling to lower their credit rating, as this would have significant and long-term impacts on their economy that would outweigh the immediate benefits of the debt relief.[31] The risk that countries may request short-term moratoriums on their debt service payments has already affected the credit market and made market borrowing costs too expensive for several countries.

A key area of spending is contingency insurance. This spending provides essential coverage for economic recessions, natural disasters, health crises and other critical risk areas. In the lowest-income countries, such insurances can have high rates of return on

investment.[32] However, spending on insurance and on COVID-19 recovery requires significant financing that is inaccessible to countries with weaker institutions and limited ability to borrow more on the international capital markets.

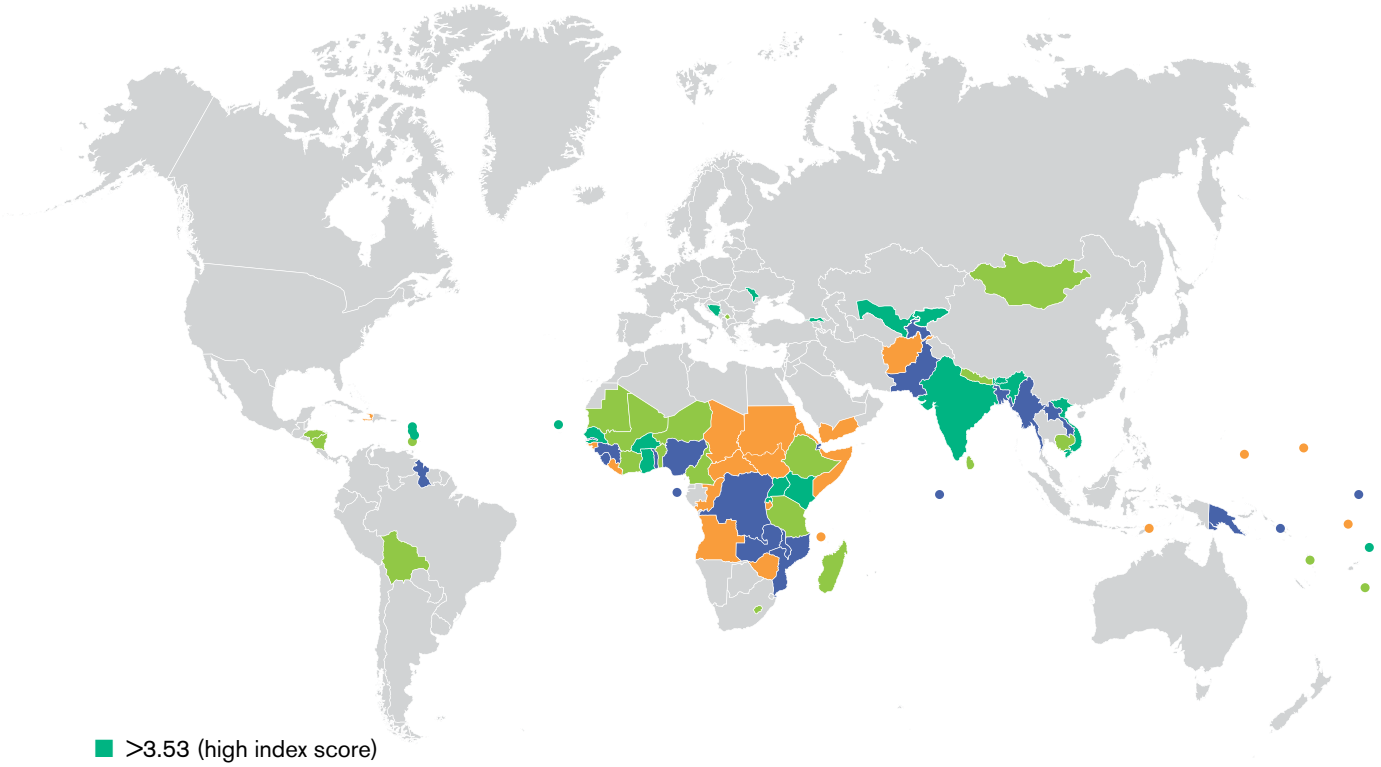
The IMF and the World Bank have jointly developed a formal framework for conducting public and external debt sustainability analyses (DSAs). The framework assesses a country's current debt situation, maturity structures and other technical fiduciary components. It also identifies as far in advance as possible vulnerabilities in the debt structure or policy framework and supports policy changes. In cases where difficulties are emerging, it examines the impact of alternative debt-stabilising policy paths.[33]

DSAs are used to help low-income countries make borrowing decisions in a way that matches their financing needs with current and prospective repayment ability. They enable an understanding of the country's projected debt burden over the next ten years, their vulnerability to economic and policy shocks based on baselines and stress-test scenarios and the risk of external and overall public debt distress.[34] Such frameworks enable low-income countries to articulate the finance they will need to carry out their plans for achieving the Sustainable Development Goals, meeting their climate commitments in NDCs, NAPs, LTSs and other climate plans, and their biodiversity commitments under Aichi and other frameworks. The IMF aims to integrate the risks of climate change damages and natural disasters with the finance needed for mitigation and adaptation strategies through their pilot climate change policy assessments.[35] An analysis of the total financing needed to implement the activities outlined in those plans in the next ten years relative to the amount of available financing for that country would give an indication of the shortfall and of what priorities would not be met given business as usual.

1.5 Addressing the triple crisis

Countries at the intersection of indebtedness, climate vulnerability, biodiversity loss and limited access to credit would benefit most from debt for climate and nature programme swaps (see section 3.1 for a mapping of countries in this intersection). These swaps could provide better global support, change business-as-usual practices and provide innovative financing that could mobilise at the scale and quality needed to transform countries' economic, social and environmental systems.

Figure 8. The IDA Resource Allocation Index 2018 – presenting an indication of creditworthiness



Source: World Bank 2020e.[26]

Achieving debt reduction with climate and nature programme swaps

2

2.1 COVID-19 debt relief response

African response

By early 2020, the COVID-19 pandemic was already placing significant stresses on economic systems, and on 19 March, the African Ministers of Finance meeting under the UN Economic Commission for Africa set out their priorities, requesting the international community to also channel support in alignment with these:

- As part of an immediate health response in all countries, coordination in the logistics and delivery of testing equipment, with particular attention to vulnerable populations.
- An immediate emergency economic stimulus for Africa of US$100 billion; in contributing to this amount, a waiver of all interest payments on public debt and sovereign bonds, estimated at US$44 billion for 2020, and the possible extension of the waiver into the medium term. This was to provide immediate fiscal space and liquidity to governments in their efforts to respond to the pandemic.
- Support to the private sector and protection for the more than 30 million jobs at risk in Africa, by all interest and principal payments on corporate debt, leases, extended credit facilities, refinancing schemes and guarantee facilities to be used to waive, restructure and provide additional liquidity in 2020.[36]

Bilateral creditors

On 15 April 2020, G20 leaders announced a Debt Service Suspension Initiative (DSSI) for the poorest countries, which was to suspend interest and debt service payments for 77 low-income and IDA-eligible countries until the end of 2020.[37] World Bank country-by-country accounting of DSSI-eligible countries, according to published DSA ratings at the end of May, reports that six countries were already experiencing external debt distress: Grenada, Mozambique, the Republic of Congo, São Tomé and Príncipe, Somalia and South Sudan. A further 27 countries were at high risk of external debt distress,[37] 21 countries were classified as facing moderate risk, and 11 countries were classified as facing low risk. For several countries the potential DSSI savings from suspending debt repayments represents significant portions of their 2019 GDP. Savings would represent 8.4% of GDP in Bhutan (moderate risk), 3.1% in Angola (risk rating not given), 2% in Mozambique (in distress), 1.6% in Djibouti (high risk), 1.4% in Tonga (high risk) and 1.4% in Lao PDR (high risk).

Countries that choose to participate in the DSSI have to commit to:[37]

- Using the fiscal space created for social, health or economic expenditures related to the crisis response
- Disclosing all public sector debt, respecting commercially sensitive information
- Refraining from contracting new non-concessional debt during the suspension period, other than agreements in the context of DSSI, or in compliance with limits agreed under the IMF Debt Limit Policy or World Bank Group policies on non-concessional borrowing.

As of 14 June, about half of the countries eligible had expressed interest in the scheme and are expected to defer about US$12 billion of payments this year.[38] When considering participation in the DSSI initiative, countries have had to bear in mind broader concerns. For example, credit rating agencies have negative perceptions around the initiative: Moody's, for instance, considers a country's failure to pay its scheduled debt service as negative and would adjust the country's credit rating accordingly.[39,40,41] A lower credit rating could negatively affect the terms that a country can access in their future borrowing, the access to credit and markets for their private sector and other aspects of their economic systems.[42]

The DSSI applies to all official bilateral creditors (including China). There are calls, supported by the Institute for International Finance (IIF), for private creditors to also join on comparable terms and for multilateral banks to join if doing so is compatible with maintaining their current high credit ratings and low-cost lending capacities.

Multilateral creditors

So far only the IMF has approved debt relief.[43] It is supporting 25 member countries with grants from its Catastrophe Containment and Relief Trust Fund, to repay a total debt service it is owed worth US$214 million, due over the next six months. It is considering approving it for four more.[43] The World Bank does not have a debt relief fund.

Non-Paris Club bilateral creditors

China is by far the largest non-Paris Club bilateral creditor.[37,44] Given that details of its loans lack transparency, its policy on debt relief is unclear. In recent months, the country has made three commitments to support debt distress reduction efforts:

- At the G20 Forum in April, China, along with the other members, committed to the G20 DSSI
- At the World Health Organization (WHO) assembly in May, China announced a commitment of US$2 billion in COVID-19 response and relief efforts over the next two years,[45] as part of its US$15 billion contribution to the WHO.

- At the Forum on China–Africa Cooperation in June, China announced the cancellation of all zero-interest loan repayments due to mature by the end of 2020, although it did not give details of the amount. China also announced a commitment to providing broader support to Africa for developing digital economies, smart cities, clean energy and 5G, to boost Africa's development and revitalisation.[46]

Commercial creditors

The G20 DSSI agreement also calls upon "private creditors … to participate in the initiative on comparable terms." Involving private lenders can significantly increase the impact of the debt service suspension, increasing revenues available to IDA and blend[47] countries by US$8.8 billion, an additional 0.3% of GDP.

However, as the request is voluntary, incentives for the private sector to agree to the suspension are limited. According to the OECD (2020)[48] "the total liquidity provision would then amount to 1% of GDP, or 5.4% of government revenues." The OECD goes on to explain that there are significant legal hurdles that limit private lenders' ability to postpone claiming debt service. For bonds, Collective Action Clauses that usually allow for restructuring sovereign debt would be difficult to apply in this specific case and would take too long. Relevant laws in the UK and the US that govern a large share of sovereign bonds would have to be modified, which is a long process that is complex and potentially risky. A large share of the debt is held in the form of bank loans, which are not governed by the same restructuring rules. The London Club, which coordinates commercial banks, is not designed to respond with the necessary urgency. Another potential model would be the Debt Reduction Facility used under the HIPC Initiative in 2005–2010,[49] but this type of initiative would require extensive negotiations and would be difficult to adapt to the current circumstances. Finally, any unilateral (and in some contracts, negotiated) change in the debt repayment schedule could lead to a decline in a country's credit rating and reduce or even cut its market access.

Given the commercial stakes involved, private creditors are likely to be wary of any debt relief package that leaves them worse off. Some of the most pernicious private sector creditors are 'vulture funds' that deliberately buy up developing country debt on the secondary market in order to make a profit by pursuing claims through international courts and other bodies. One way to attract private creditors to a debt for climate and nature programme swap would be to provide access to climate emission trading credits through, for example, the European Union Emissions Trading Scheme (ETS). This is explored in section 2.5.

2.2 Debt for climate and nature programme swaps

Most of the COVID-19-related debt relief responses from creditors has been through timebound debt service suspension. However, for long-term debt sustainability, restoring future growth potential is crucial.

Here, we explore debt swaps as a mechanism that could contribute towards future growth and long-term debt sustainability in many countries.

Debt swaps are defined as the exchange of an existing debt contract for a new debt contract, a transaction which involves 'writing down' or 'discounting on' the value of the original debt contract.[50] Writing down the value may be in the form of debt forgiveness. The write-down is usually associated with conditions for investment agreed by the creditor and debtor. Holding loss from writing down the value of the original debt is recorded in the revaluation account. Discounting on the value may involve changing the currency of the amount owed to the debtor country to minimise foreign exchange risks and/or charging lower interest rates, or third parties purchasing the debt on secondary markets at a lower value for refinancing – which may also encourage further third-party grant support. In other words, debt swaps are financial transactions in which a portion of a country's external debt is relieved in exchange for local investments in a defined investment area.

Debt swaps have been used since the 1980s. In this section, we briefly outline the history and scale of past debt for nature swaps. Other types of debt swaps exist in the broader financial landscape – for instance swaps based on different sectors, such as health or education, and on different instrument types, such as debt for equity swaps. But in this paper we focus on debt for nature and climate (adaptation, mitigation and resilience) swaps.

Debt for climate and nature swaps involve transactions between several groups of actors. The early swaps were typically transactions between bilateral creditor governments, debtor governments and multilateral creditor agencies, or tripartite agreements between creditor agencies, conservation NGOs and debtor governments. These transactions are described in the following sections. The exact mechanisms for debt relief, write off, restructuring and redirection appear to vary widely among the various swaps.

The macroeconomic and debt environments and the approaches to economic development, have significantly changed since these early swaps. In the final part of this section, we discuss what debt swaps could look like in the current context and how debt

swap objectives could already be aligned with the LDC Group's approach to economic development.

Early debt swap projects

The concept of debt for climate and nature swaps was first developed in 1984 by WWF's then Deputy Vice President, Thomas Lovejoy, in the wake of the Latin American debt crisis. It was proposed as a way to address developing country indebtedness and the resulting damaging impacts on the environment.[51]

Many of the early debt swaps were tripartite or commercial swaps, in which an NGO acted as a donor, purchasing debt from commercial banks. The NGOs could purchase the debt at well below its face value on the secondary market, resulting in a certain amount of relief on the debt's value for the debtor government. Organisations including Conservation International, The Nature Conservancy and WWF have participated in debt swaps. After purchasing the debt, the title would be transferred to the debtor country. In exchange, the debtor country would fulfil its commitment to environmental or conservation goals. This was usually through a national environmental fund that channelled funding to environmental NGOs and conservation programmes.

Bilateral debt swaps involved the government of a creditor country forgiving a portion of a debtor country's public bilateral debt in exchange for its committing to environmental goals.[52] For example, under the Enterprise for the Americas Initiative, which was launched in 1990, the US government forgave a portion of Jamaica's official debt obligations and allowed the payments on the balance to go into national funds to finance environmental conservation. These funds established the Environmental Foundation of Jamaica in 1993.[53,54]

The US government became increasingly involved in debt swaps in the early 2000s following the enactment of the 1998 Tropical Forest Conservation Act (TFCA).[55] One of the Act's key objectives was to provide developing countries with debt relief in exchange for increased local conservation of tropical forests.[56] The Act requires that the funds are allocated to a local NGO. Among the countries where swaps took place were Bangladesh, Belize and El Salvador. Many of the swaps were subsidised, with an NGO, usually from the same country as the creditor, providing additional resources to those committed by the creditor government. Foreign NGOs acted as third parties, paying for approximately 20% of the debt and funds under the TFCA paid for the rest. For example, in the Belize debt swap, The Nature Conservancy contributed US$1 million.[57] The TFCA helped to conclude agreements with 14 countries, generating over US$326 million in allocations for tropical forest conservation.

Multilateral debt swaps are similar to bilateral swaps but involve transactions between more than two national governments. The Paris Club, for example, introduced a debt swap clause into its agreements.[58]

According to the United Nations Development Programme (UNDP), the value of debt for climate and nature swap agreements exceeded US$2.6 billion from 1985 to 2015, with US$2 billion of this occurring prior to 2000. The swaps have resulted in transfers of about US$1.2 billion to conservation projects worldwide.[59] With bilateral debt for climate and nature swaps accounting for 93% of the total in this period. Commercial debt for climate and nature swaps have accounted for approximately US$200 million in restructured debt and US$123 million in allocations to conservation. The US was responsible for more than half (53%) of this and a third of the revenue was directed to conservation (36%). Switzerland and Germany were the next highest contributors, with 16% and 13% respectively, and Belgium, Finland, France, Italy, the Netherlands, Norway and Sweden contributed between 1% and 3%. These transactions benefited 39 countries, half of which are in Latin America and Caribbean. Bolivia, Costa Rica, El Salvador, Jamaica, Peru and Poland surpassed US$100 million in face value. With the exception of El Salvador, these countries committed more than US$100 million to conservation projects. Twelve countries negotiated debt for a value of between US$30 million and US$100 million and the remaining negotiated debt with a value of less than US$30 million.[59]

Since the early 2000s, there has been a lull in debt for climate and nature swaps because prices for debt on the secondary market rose and other debt relief schemes, such as the HIPC Initiative, came on stream. Since their inception, the HIPC Initiative and the Multilateral Debt Relief Initiative (MDRI) have written down US$76 billion in debt for 36 participating countries.[59]

More recently the concept of debt for climate swaps has emerged. In 2018, the Seychelles government partnered with The Nature Conservancy, GEF and UNDP to develop a debt for climate swap for US$27 million of official debt, to set up vast areas of protected marine parks for climate resilience, fishery management, biodiversity conservation and ecotourism.[60,61] Under a partial buy-back agreement, the amount was transferred to a fund to protect and develop the Seychelles' marine environment. This enabled it to buy back a portion of the debt maturities falling due to the Paris Club between 2015 and 2021 at a 5% discount on face value. The debt to be bought back will be converted into new debt obligations for the government. This will be part repaid in local currency, to be issued to the Seychelles Conservation and Climate Adaptation Trust,

the local trust created to fund and manage the marine conservation site.

A new approach to debt swaps, informed by developments in budget support approaches

While traditional debt for climate and nature swaps have slightly reduced the current debt stock, they have not contributed significantly to debt sustainability.[62] These swaps have often been structured as net neutral financial transfers and have not generated additional fiscal space – that is, the budgetary room that allows governments to provide resources for public purposes without undermining fiscal sustainability.[63,64,65]

For debt swaps to contribute meaningfully to climate and nature outcomes, they need to create fiscal space, be much larger in scale and their mechanisms need to be updated to better address the needs of the poorest men and women in respect of climate change resilience and biodiversity protection (see section 2.3).

They would need to move from project swaps to programme swaps, using budget support approaches. Post-COVID-19 debt relief could be swapped for debt for climate and nature programmes, where the money saved is invested in budget support programmes for climate resilience or biodiversity protection for poverty reduction. Budget support approaches would allow a much more cost-effective, high-volume spending instrument that is more strategically linked to policy than projects, which until now have been the focus of climate and nature swaps. Much can be learned from past budget support approaches that were common in the 1990s and early 2000s in sectors such as health and education and, to a lesser extent, environment (section 3.2). To be viable, such schemes need to achieve minimum fiduciary standards, requiring countries to have certain constraints on corruption and to be creditworthy.

Debt for climate and nature programme swaps could play a role in incentivising creditors to restructure, not only by creating goodwill for creditors, but by designing swaps that generate concrete economic value with environmental benefits. Swaps, with a focus on sustainable investments (eg solar and wind power, climate-resilient agriculture) would deliver economic returns.

Such an investment could be placed, for example, behind the Least Developed Countries (LDC) Group's 2050 Vision for a low-carbon climate-resilient future. Launched in 2019, it aims for all LDCs to be on climate-resilient development pathways by 2030 and to deliver net-zero emissions by 2050.[66] It is underpinned by the LDC Group's Initiative for Effective Adaptation and Resilience (LIFE-AR). This initiative works to support LDCs to undertake processes to develop adaptation and resilience plans, to identify immediate priorities that will further build national institutions, domestic systems and capabilities, and to further define and support wider national efforts to build resilience and address poverty.

As part of this initiative, LDCs will undertake whole-of-society national processes that involve the private sector, public agencies, communities, and individuals, amongst others, for whole-of-government responses to align their national development pathways with the LDC 2050 Vision's long-term plan. This will cover climate adaptation, mitigation and resilience. The LDCs will then identify priority mechanisms for delivering their national long-term low-carbon, climate-resilient vision with international support channelled through the national government budget.

LDC INITIATIVE FOR EFFECTIVE ADAPTATION AND RESILIENCE

LIFE-AR was officially welcomed by the LDC Ministerial Group and LDC Chair at COP24 in December 2018. The initiative kicked off with a Group-level visioning process. The resulting LDC 2050 Vision was launched at the UN Secretary General's Climate Action Summit in September 2019. LIFE-AR is now supporting LDCs to work towards this vision, and seven LDCs form the first 'cohort' to take the LDC 2050 Vision forward in their countries and to turn the LDC offer into a reality. These countries are Bhutan, Burkina Faso, Ethiopia, The Gambia, Malawi, Uganda and Tanzania. A second group of countries will join the initiative in due course, ensuring that support gradually spreads across the LDCs, especially to those often left behind. These seven countries will spearhead the process and document experiences, providing rich lessons in the early years that will support peer-to-peer learning across the LDC Group and provide opportunities to share and reflect on learnings with regional hubs and the rest of the world.[67]

The Caribbean Small Island Developing States (SIDS) are also working collectively to put forward a proposal for debt for climate and nature swaps. These are some of the most vulnerable states, whose public debt is significantly restricting their capacity to build resilience to climate change and prevent the undermining of debt sustainability and economic growth. The Caribbean states of Jamaica, Haiti, Grenada, and Antigua and Barbuda have previous experiences with debt swaps. The current SIDS climate swaps proposal has a similar approach to LIFE-AR and is underpinned by high-level political support and SIDS' ownership of the process;

support across the debtor's government; and buy-in and active involvement from civil society, local NGOs and the private sector. Adaptation or mitigation programmes are anchored in pledges outlined in national development plans, NAPs, NDCs and plans for securing low-carbon, climate-resilient economies.[62]

The Commonwealth Secretariat has also been advocating for a multilateral debt for nature and climate swap for Caribbean SIDS.[68,69,70] The Secretary of the UN Economic Commission for Latin America and the Caribbean (ECLAC) established a regional task force to advance ECLAC's Debt for Climate Adaptation Swap Initiative and discussed the initiative with various Caribbean leaders and highlighted its potential in 2019 during the UN Climate Action Summit and the UN General Assembly's High-Level Week.[71]

2.3 Economic benefits of climate and nature programme swaps

Debt sustainability is a function of future economic growth, budget surplus or deficit and debt payments. A well-designed debt swap can improve all three elements of debt sustainability. Current restructuring pays little attention to the effects of swaps on future growth, which could potentially lower the amount of restructuring needed to restore debt sustainability. If we can stimulate economic growth with swaps, a smaller debt restructuring will be needed. Simplified, debt sustainability is a function of three elements: the debt stock = D (which is currently very high in many countries); the interest rate = R; and the government budget balance or primary surplus = PS. This is illustrated in this debt dynamic equation:

$$D_t = \frac{(1 + R_t)}{(1 + G_t)} D_{t-1} - PS_t$$

Swaps need to increase the real growth rate (G) to reduce the debt stock.

We can easily show that if the existing debt levels are too high (above the IMF's sustainability threshold levels), the amount of debt to restructuring (ΔDt) needed to bring debt levels below a certain threshold, depends on the debt stock reduction itself, the interest rate (R) and, most importantly, economic growth (G). A debt swap is designed to lower the initial debt stock, but also will stimulate future economic growth (as sustainable climate and nature investments do, while the existing debt is in many cases used for consumption, which does not result in long-term economic growth). Given rapid technological advancements in climate investments, the debt reduction needed to get debt back onto a sustainable path may be smaller than without such a swap, as it ties the debt relief to productive investments, a crucial difference when compared to the HIPC Initiative, for example.

Despite the rapid accumulation of debt since the HIPC Initiative and the MDRI, investment and productivity fell in many low-income countries as the IMF's 2019 report on LICs makes clear.[11]

It is unlikely that LICS will be able to continue the high economic growth rates of the past decade and they will face a new period of debt overhang. To improve debt sustainability and prevent future debt crises, it is crucial to increase productivity – and thereby long-term economic growth in LICs – and to make sure new debt is used effectively. Sustainable investments in, for example, energy and food supply, will reduce the need for energy and imports and increase productivity. Now that sustainable investment offers returns to growth, debt for climate and nature programme swaps becomes increasingly feasible. Debt relief alone cannot do the job and it is key that the right incentives are provided to promote long-term growth.

2.4 Addressing the key challenges of debt for climate and nature programme swaps

Four key conditions are required for providing value from climate and nature debt swaps:

- An increase in available resources to the debtor country's government budget
- An increase in the fiscal space in the debtor country's government budget
- An increase in resources spent on climate and nature priorities
- A reduction in the debt stock sufficient to improve macroeconomic stability.

Drawing on Cassimon et al.,[63] we discuss these conditions in turn.

2.4.1 Increase in available resources

To provide value a climate and nature swap must result in an increase in available resources for the debtor country government. Through a debt swap a debtor government can divert public resources, which would otherwise leave the country via debt service payments in foreign currency to domestic spending on environmental priorities. Like any other form of aid intervention, debt swaps transfer international purchasing power from the donor to the recipient country.

A resulting increase in available resources will depend on: the value of the savings from the debt redirection; whether the swap covers the debt that would have been paid to the creditor and whether the finance from the swap is additional to other forms of donor financing.

Savings from debt relief or redirection are only realised gradually because they depend on the contractual repayment terms and schedule of the underlying debt. Therefore, the size of the debt does not necessarily reflect the increase in available resources for the debtor country from the transaction. The current value of the future stream of debt repayments can provide a better measure. Particularly when debt is highly concessional, with long maturity and repayment periods and below-market interest rates, such as with official development aid (ODA) loans, the value from the debt relief or redirection for international purchasing power of the country will be significantly lower than the debt amount itself.

Only the share of debt service that would have been paid to the creditor in the absence of debt relief will generate new resources for the debtor country. To suppose that all debts would have been fully serviced without the swap arrangement (ie assuming the probability of default to be zero) may be optimistic, particularly when a country is experiencing debt service problems. If the debtor would have failed to meet its debt obligations, the resource effect of debt reduction through a swap is low.

Debt swaps can crowd out other forms of aid, particularly as accounting rules allow donors to treat debt relief operations as substitutes for new aid. To avoid double counting loans that already qualify as ODA and are converted into debt swaps, only the redirection of the interest component (and not the principal) is recorded as new ODA. Debt swaps can thus be considered an option to increase donor aid disbursements and may lead to reduced expenditures on other categories of ODA.

2.4.2 Fiscal space in the government's budget

By freeing up resources in the government's budget, swaps can increase fiscal space – that is, they can increase the flexibility of the government's spending decisions without putting the stability of its fiscal and macroeconomic position at risk. This would only happen if the counterpart payments to climate and nature objectives were lower than the original debt service payments, and if the timing of annual savings from debt relief align with the timing of domestic counterpart payments. If counterpart payments are made before debt relief savings are realised, it may worsen the government's fiscal position instead of improving it.

2.4.3 Resources for climate and nature priorities

An increase in available resources for climate and nature outcomes depends on additionality in both donor support and government expenditure in this area. The financing provided by the creditor must be additional and not a substitute for other support from the creditor towards climate and nature priorities. Creditors might reduce their support through other channels, counting the redirected debt as part of their overall contribution to climate and nature priorities. The swap must also represent additional resources for climate and nature priorities within the recipient country.

Swaps could result in the debtor government deciding to cut back on its own efforts and reduce projected budget allocations for climate and nature spending, crowding out existing spending. Thus, swaps may represent substitutions of planned government expenditure on climate and nature, with the savings being used elsewhere. A certain degree of 'fungibility' is inherent in most aid instruments. But the significance of this will depend on how much of the planned government expenditure for climate and nature is being redirected.

2.4.4 Debt reduction and macroeconomic stability

Debt swaps help to reduce a country's overall debt stock. This can increase macroeconomic stability, leading to improved credit ratings, increased access to international credit markets and international donor support, and a reduction in the rate of domestic natural resource degradation (which tends to increase during periods of economic austerity).

Debt relief must reach a critical mass and be delivered in a harmonised manner to achieve debt reduction on a large enough scale to provide macroeconomic benefits. The agreement by G8 finance ministers in 2005 to cancel the US$40 billion debt of the 18 most heavily indebted poor countries and US$15 billion of debt for a further 20 countries[72] was a paradigm shift. An initiative of similar scale is now needed to address the triple crisis of debt, climate change and biodiversity loss.

High debt service payments in heavily indebted countries commonly result in governments imposing high taxation on the most productive sectors of the economy to raise revenue. But this reduces investment and economic stability and reduces governments' revenue and their ability to meet debt service payments in the longer term.

Debt relief interventions could help to break this vicious circle and restore a self-enforcing process of economic stability. This should, in turn, lead to greater domestic resource mobilisation in the future, for example through

more efficient taxation practices or increased private-sector investment. Debt relief allows recipient countries to attract more aid as donors aim to increase overall aid effectiveness by channelling funds to countries where the poverty-reducing effects of aid are greater.

Another indirect benefit of lower hard-currency indebtedness in developing countries is the possible reduced need for primary resource exports and therefore lower extraction and deforestation rates. If the swap results in greater availability of finance, some of this could support broader objectives such as poverty and inequality reduction, which in turn reduce pressure on natural resources. Many of the lowest-income countries are dependent on foreign exchange earnings to repay their external debt. These countries will be under severe pressure over the next 12–18 months to service existing debt, with the likely reduction in international tourism – a large source of foreign exchange for many countries; commodity prices from oil, gas and minerals at historic lows for natural resource-exporting countries; and reduced exports of manufactured and agricultural products. Compounding the existing debt pressures is the need for debtor governments to borrow significantly more to support their economies and social and health systems. Given the weak social security infrastructure in many lower-income countries, state support for enterprises and employment will be needed to avoid high unemployment and potential social unrest. This would exacerbate the debt crisis, resulting in even greater uncertainty around these countries' ability to service even higher levels of debt. Large-scale debt swaps could help to break these debt cycles, support climate and nature priorities, and build resilience to prevent future economic instability.

2.5 Benefits for key stakeholders

Several key national and international players could benefit from debt for climate and nature programme swaps and influence the debate.

Developing country finance bodies

Ministries of finance and central banks in developing countries responsible for debt management could receive a more sympathetic hearing on debt relief if they could demonstrate that the funds would be partially used for pro-poor climate and biodiversity budget programmes.

Climate negotiators

Climate negotiators could access new sources of climate finance as debt relief, which could dwarf the sums received from the global Green Climate Fund. It is crucial that negotiators engage with the discussions on post-COVID-19 debt relief to identify new sources of climate finance. Fenton et al. present a compelling case for the US$345.1 billion of long-term bilateral debt held by developing countries in 2012[73] (more than three times the fast-start climate finance goal established under the 2009 Copenhagen Accord)[74] to be considered for debt relief as a viable option for fulfilling the UNFCCC climate finance commitments. They find that debt relief totalling US$83 million (of which US$32 million was from a US debt for climate and nature swap under the TCFA) had already been granted as part of the contribution under fast-start finance. Climate funds can also be important for providing technical assistance, drawing on their experience in supporting countries with climate and nature priorities. For example, the Green Climate Fund and the GEF could provide technical assistance and capacity building for nature and climate-resilient investment.

China

As the largest holder of developing country debt, China has a major role to play. It could use its role as host of the UN Biodiversity Conference in 2021 to champion debt for climate and nature programme swaps. By forgiving debt to support biodiversity investments, it could help to ramp up global spending on protecting biodiversity, which is a major objective for the biodiversity COP.

The private sector

Private asset managers and commercial banks have increased their role as holders of developing country debt, with global asset managers managing over US$80 trillion of assets.[75] However, they provide little public information on their holdings and transactions. As investors in developing and emerging economy markets, the group of asset managers referred to in section 1.1 are familiar with the contexts and frequently work with investments with a high risk of debt distress. These creditors support debt sustainability on a case-by-case basis and use flexible solutions, in which debt sustainability benefits the firm as well as the investee.

Many of these firms have played active roles in debt restructuring dialogues, and appear willing to support debt sustainability and sustainable development. For example, Greylock Capital Management LLC, has participated in more than 50 creditor committee workouts[76] and in liability management transactions in more than 30 countries.[77] It is also a member of the Emerging Markets Investor Alliance,[78] which promotes sustainable development and good governance among private creditors, and seeks to improve investment performance in governments and companies in which they invest. The Institute of International Finance[79] is a global association of the financial industry whose mission is to support "the prudent management of risks;

to develop sound industry practices; and to advocate for regulatory, financial and economic policies that are in the broad interests of its members and foster global financial stability and sustainable economic growth".

There is also evidence within this group of private creditors of strong environmental, social and governance (ESG) and climate values in investing. For example, Aberdeen Standard Investments PLC states a commitment to incorporate ESG considerations into its investment approach.[78] It recognises the importance of climate considerations in relation to investment risk and investment opportunity, and the shift to low-carbon, climate-resilient pathways.[80] It is a member of and signatory to various sustainability and responsible investment processes and alliances, including the UN Principles for Responsible Investment,[81] and is a member of Climate Action 100+, an investor initiative that encourages the world's largest corporate greenhouse gas emitters to take action on climate change.[82] The active role these private creditors are playing in dialogue, influence and engagement suggests that they could leverage support for large-scale sustainable debt management through debt forgiveness and swaps.[83]

Private creditors wary of debt forgiveness might be more easily persuaded if they can link it to the business case, wider stakeholder objectives and public relations benefits of increasing spending on climate and nature. Some asset manager members for the new Africa Private Creditor Working Group, such as Greylock Capital, have also made strong commitments to incorporate climate and environment issues into investment decision making. Debt write-offs could be made more attractive to the private sector through access to emissions credits through, for example, the European Union Emissions Trading Scheme (see the following paragraphs on the EU).

The Paris Club

The Paris Club has traditionally led on debt relief efforts. Through debt for climate and nature programme swaps they can identify a new source for climate finance to meet their international obligations. Achieving debt relief while also mobilising climate finance could be particularly attractive with the likely contraction of donor budgets in the wake of COVID-19.

The European Union

The EU's Green New Deal sets out its response to the climate and biodiversity emergency. As a supporter of climate and biodiversity action and a funder of budget and sector aid, it could promote debt for climate and nature programme swaps in its post-COVID-19 Recovery Strategy. It could also use existing allowances under its Emissions Trading System (ETS) to incentivise private creditors to write off debt.

The EU ETS is the first and now largest international, multi-sector greenhouse gas emissions trading system in the world, covering more than 11,000 power stations and industrial plants across the EU. Emissions trading enables emission reductions to take place in the industrial plant where the cost of the reduction is lowest as a unit of carbon reduced has the same pollution effect wherever it occurs, thus reducing the overall cost of addressing climate change. The EU ETS uses 'cap and trade', which sets a limit on the total greenhouse gas emissions allowed by all firms in the system, and this cap is converted into tradable emission allowances. The allowances are allocated to participants in the market either for free or, increasingly, through auctions. Prices for allowances have fluctuated but at the time of writing (August 2020) the emission units are trading at about US$25 per tonne of carbon dioxide.

The United Kingdom

The UK is an OECD member with a particular role to play in debt for climate and nature programme swaps. It is a key player in global finance, with many major asset managers based in the City of London. It has also been active in past debt relief efforts. In 2021, as president of the G7 and host of COP26, it could play a key strategic role in encouraging public and private creditors to combine debt relief with investments in climate resilience and biodiversity.

Conservation organisations

Organisations such as The Nature Conservancy, Conservation International and WWF, which have led the design of past debt for climate and nature swap projects, can identify more finance through programme-based approaches with strategic links to policy.

Implementing debt for climate and nature programme swaps

3

To be effective, debt for climate and nature programme swaps should be underpinned by the following principles:

- Priority criteria based on debt, climate, biodiversity and public financial management
- Lessons from climate and nature project swaps
- Lessons from budget and sector-wide approaches
- Using expenditure reviews in the design of the programme.

3.1 Eligibility based on debt, climate, biodiversity and creditworthiness

Past debt swaps appear to have been implemented in an ad hoc and opportunistic way. For the large-scale debt swaps we propose, a structured and coordinated approach based on prioritisation is needed.

Based on the data presented in sections 1.1 to 1.4 of this paper, we have combined four indices to generate a mapping of countries at the intersection of four key areas (see Annex 2 for details of each).

(i) **Climate vulnerability and risk** as measured by the World Risk Index for climate and disaster risk (2019)[14]

(ii) **Biodiversity loss** as measured by the GEF Benefits Index for Biodiversity (2008)[26]

(iii) **Indebtedness** as measured by the World Bank data on external debt stocks as a percentage of GNI (2018). This World Bank data is a measure of a country's debt – including all private sector and not just public and publicly guaranteed debt. We use this measure to give an overview of external debt levels in each country to build a broader picture of overall debt.[5]

(iv) **Creditworthiness** as measured by the World Bank IDA Resource Allocation Index (IRAI), based on the 16 CPIA indicators (2019).[26]

We consider these indices to be the closest match to what we are trying to measure. However, there are limitations to what the indices capture. There are several dimensions to each of the four areas, some of which may not have been captured within the chosen indices.

Table 1 presents a mapping of countries at the intersection of the four indices. The objective is to prioritise countries for debt for climate and nature programme swaps. The higher the sum of quartile ranking of the country, the higher the potential priority for swaps (see Annex 1 for the full table).

Table 1. Ranking of priority countries for debt for climate and nature programme swaps

Sum of quartile ranking	**Country**	**Income classification**	**LDC/SIDS/ FCAS***	**Climate vulnerability and risk (2019 data)** (higher value represents greater vulnerability and risk)	**Biodiversity richness (2008 data)** (higher value represents greater biodiversity richness)	**Indebtedness (2018 data)** (higher value represents higher proportion of debt stock relative to GNI)	**Credit-worthiness (2018 data**)** (higher value represents greater credit-worthiness)
15	Cabo Verde	Lower-middle income	SIDS	18.02	94.12	89.30	3.77
=15	Viet Nam	Lower-middle income		10.31	470.06	46.70	3.69
14	Honduras	Lower-middle income		11.39	281.81	43.73	3.45
=14	Kenya	Lower-middle income		10.30	343.82	36.14	3.69
=14	Nicaragua	Lower-middle income		13.78	127.34	90.70	3.51
=14	Papua New Guinea	Lower-middle income	SIDS/FCAS	22.18	991.61	78.39	3.00
13	Cambodia	Lower-middle income	LDC	15.13	135.65	58.24	3.38
=13	Kyrgyz Republic	Lower-middle income		7.28	42.63	102.98	3.58
=13	Madagascar	Low income	LDC	10.49	1139.44	31.76	3.28
=13	Mozambique	Low income	LDC	9.50	280.15	107.57	3.21
=13	Senegal	Lower-middle income	LDC	9.82	39.86	52.37	3.72
=13	Sri Lanka	Lower-middle income		7.50	306.73	60.85	3.38
=13	Uganda	Low income	LDC	8.71	107.96	46.34	3.68
=13	Vanuatu	Lower-middle income	LDC/SIDS	56.71	81.39	45.95	3.38

*Fragile and conflict-affected states.

**2018 data except for nine countries, where the most recently available figure was taken (2013–2017).

3.2 Lessons from debt for climate and nature project swaps

Building on experience from earlier climate and nature debt swaps can provide key lessons for designing a new process. To be effective the new initiative must address the limitations of previous processes, as we now discuss.

3.2.1 Country ownership

According to Cassimon et al., "The strong involvement of international NGOs in the first generation of (primarily private) swaps raises questions about the recipient government control in such initiatives".[63] The biggest distinction between past project swaps and current proposed programme swaps is that budget accountability lies with the country, not with the NGOs that manage trust funds.

Conditionality could be based on principles for spending rather than on specific climate or nature goals and targets. Policy-based lending through the World Bank could be used as an alternative to traditional conditionality agreements. This would support greater country ownership and sovereignty as the finance flows are governed by principles, not conditions (ie the principle that the funds support climate resilience rather than a prescriptive list of outputs to be achieved). The recipient country would then have greater flexibility in decision making on the use of funds.

By channelling debt into climate resilience, adaptation and biodiversity protection programmes, countries would be using national financial systems to direct the finances, helping to build institutional capacities. Since investments in climate and biodiversity usually require long-term support, and debt service repayment schedules are usually long term, it also creates space in the budget for these priorities, which makes them more likely to continue beyond the obligation period.

Evidence from climate and nature finance delivery has shown that the most effective interventions are those that allow the recipients flexibility in the use of funds.[18] This often requires strengthening the capacities of institutions and local groups and within the broader enabling environment. For example, the Forest Investment Programme's Dedicated Grant Mechanism offers support through two key pathways.[85] The first is an empowerment pathway, which focuses on strengthening local community organisations to better manage funds, represent their constituencies and raise local community issues at a global level. This support focuses less on outputs and more on capacity-building outcomes to support the engagement of key stakeholders that leads to long-term effective impact.

The second pathway focuses directly on projects. Both channels are necessary and illustrate the need for dedicated resources to strengthen the mechanics of delivery as well as the delivery itself (depending on local context), and the need for flexible financing – which is often missing from international financing. Rather than basing swaps on specific climate and nature projects and outputs, budgetary and programme-level support can provide the long-term approach needed for effective climate and nature outcomes.

3.2.2 Creating fiscal space by combining debt relief and swapping

Many countries need debt relief, debt swapping and debt restructuring. Part of the debt may need outright debt forgiveness as debt is crippling the economy (with funds being used for servicing debt instead of investing in public services like schools and hospitals); the other part of the debt can be swapped. For example, in Poland debt restructuring agreements enabled the cancellation of 50% of debt and established a Polish Eco Fund in 1992, which by 2000 had mobilised more than US$500 million through swaps with creditors and additional grants. Setting up such facilities can attract further financing from other sources.

3.2.3 Scaling up debt swaps and reducing transaction costs

To be effective, debt for climate and nature programme swaps need to be scaled up, and their transaction costs reduced. Cassimon et al. affirm that "… debt relief must reach a critical mass and be delivered in a harmonised manner to stand a chance of freeing a country from its debt burden and the related economic deadlock. In contrast, debt-for-nature swaps have always been piecemeal interventions whose scale, in comparison with recipient countries' overall debt stock, is deemed insufficient to make a meaningful impact."[63]

Many project-based swaps have high transaction costs, which include the costs of legal fees and finance and environmental expertise to structure the debt deal. By virtue of their size, programme swaps should have lower transaction costs proportionate to total financing.

As part of the DSSI, the Paris Club produced a memorandum of understanding (MoU) detailing how the broad parameters of the DSSI are to be translated into revised lending agreements.[86] This reduces the amount of bilateral back-and-forth needed to agree on the general aspects of debt suspension before addressing the country-specific technical terms and conditions. The MoU could also be replicated by non-Paris Club creditors to support similar debt suspension initiatives. This type of MoU for debt swaps could help address issues of scale and coverage, and significantly reduce transaction costs.

The Paris Club also has a clause on the 'comparability of treatment', which aims to ensure balanced treatment of the debtor country's debt by all external creditors, and obliges the debtor country to seek comparable treatment from non-Paris Club bilateral and private sector creditors. This clause seeks to reduce the burden on public finance and improve debt treatment coverage for the debtor countries.[87]

3.3 Lessons from budget support approaches

3.3.1 General budget aid

Budget support approaches were common in the 1990s and early 2000s, led by organisations such as the UK Department for International Development and the EU. Bilateral budget support has tailed off with the general shift towards conservative governments, but the EU has continued support to some extent. In 2004 the World Bank introduced Development Policy Financing (DPF), through which loans or grants could be provided, and where 'prior actions' were required as a form of conditionality.[88] Budget support aims to assist nationally owned development strategies and, according to Bird and Ferrandes, "…the scale of General Budget Support programmes that are anchored in government-led processes helps to secure high levels of ownership".[89]

3.3.2 Environmental budget aid

The EU and World Bank have been the main organisations providing climate and environment-related budget support. The EU has provided this through the Global Climate Change Alliance. Climate change is increasingly being integrated into national development plans and national policy planning.[89]

The World Bank provided more than US$14 billion in environmental development policy financing between 2000 and 2015 – almost US$1 billion a year. Since 2000, 39% of its environment and natural resource financial commitments have been development policy financing, and environmental DPF has accounted for roughly 9% of the World Bank's development finance totals.[90]

A World Bank evaluation in 2016 concluded that "environmental policy lending can be most effective when policy issues are the main barrier to improving environmental outcomes, rather than capacity or other issues. It offers advantages for achieving sector wide or multi-sectoral goals across many ministries. It can be most effective when the Bank has prior knowledge of the country and sector and strong institutional relationships, which may be developed through use of other instruments. It is useful for those policy issues that need attention from high-level decision makers, especially in financing and planning ministries.

"Environmental DPOs are frequently multi-sectoral in nature, especially those designed as climate change or green growth operations. Many environmental issues are outside the control of traditional environment agencies, and are rather in the energy, water, agriculture, transport, and industry sectors. The ability to address environmental aspects of these sectors jointly through a common approach is a strength of the instrument."[90]

3.4 Programme design using climate and biodiversity expenditure reviews

Expenditure reviews, which are often linked to policy, have existed for some time but recently these have been introduced for environmental, climate and biodiversity expenditures.

For climate expenditures, some 25 Climate Public Expenditures and Institutional Reviews (CPEIRS) have been conducted in Asia, Africa and Latin America. The UNDP and World Bank have published methodologies for conducting these reviews. In some countries these one-off snapshots of expenditures have developed into routine updates on climate expenditures through the budget process and in some cases real-time data on climate expenditures.

Biodiversity Expenditures Reviews (BERs) have been supported in more than 20 countries by the UNDP's biodiversity finance initiative BIOFIN. These reviews contain detailed data on public, private and civil society biodiversity expenditures.

CPEIRS and BERs can provide a baseline of current climate and biodiversity expenditures in selected ministerial budgets such as agriculture, rural development, water resources, transport, local government and energy. These budgets could be increased through a climate and biodiversity programme swap with performance indicators determined by the country, like:

- Number of farmers and households becoming climate resilient
- Number of roads or other infrastructure investments becoming climate resilient
- Value of payments to smallholders for afforestation, habitat restoration and conservation
- Amount of social protection provided to fishers for closed season fisheries
- Amount of human wildlife insurance provided to households living in or around protected areas.

3.5 A new operational model

The OECD[91] has produced diagrams illustrating the operational model of debt swaps based on early debt swap structures.[91] Based on lessons from past debt swaps and wider learnings from climate and nature interventions, Figure 8 sets out a proposed update to the OECD operational model.

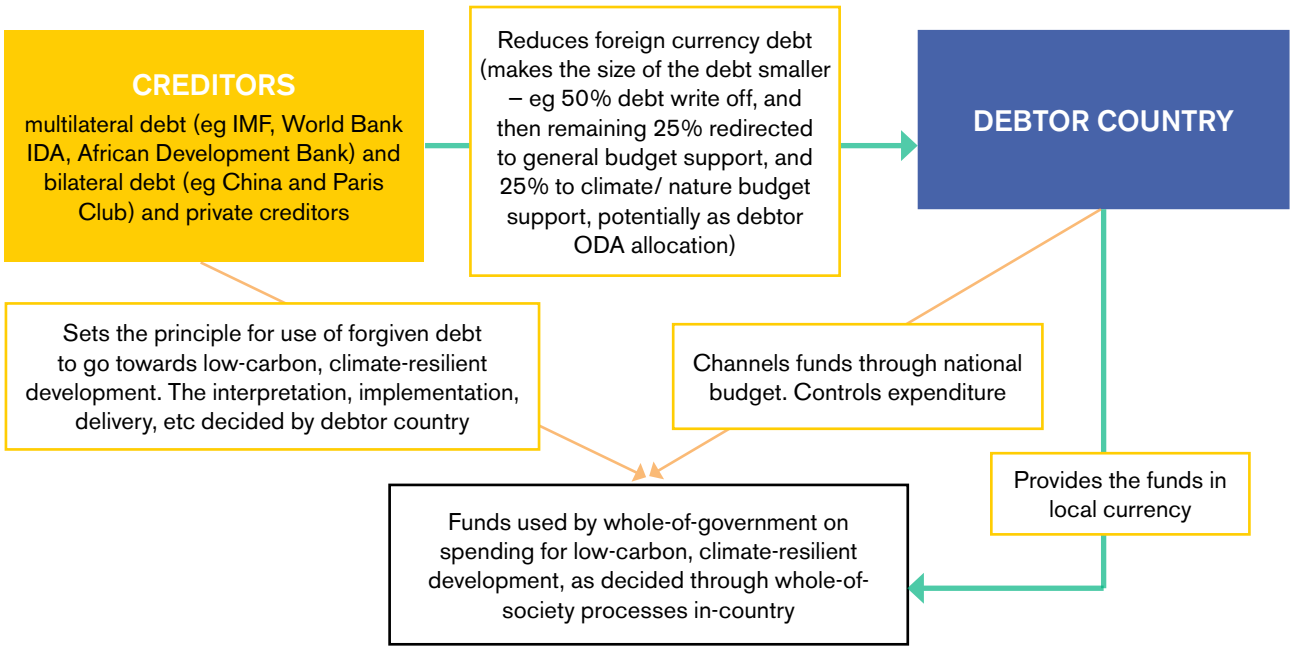
In this model, multilateral, bilateral and private creditors (left-hand box) reduce or remove the debt obligation to the debtor country (right-hand box). This could involve some debt write-off to reduce debt distress and free up fiscal space for priority needs such as healthcare responses to COVID-19. The remaining debt could then be redirected to both general and targeted climate and nature budget support. These movements of capital would match or have a less burdensome schedule and be lower than the original debt service payments.

Past delivery of adaptation, resilience and nature activities has shown that country ownership and support for strengthening the broader enabling environment are essential for effective outcomes.[66,18]

The orange arrow in the figure illustrates how the creditor uses a principle-based framework for the debt swap. The creditor would establish the principle for the redirected debt payments be used for low-carbon, climate-resilient, sustainable investments. The creditor would in this case provide less relief than without such climate investments, as economic growth is increased in those countries. The private sector could receive incentives under international climate obligations (such as emission rights or contributions to the stakeholder commitments of their own portfolios), and could directly benefit from the new investment, for example by supporting debtors in carrying out sustainable energy projects.

The interpretation, implementation and delivery of low-carbon, climate-resilient development pathways would be initiated by the debtor country in consultation with the creditor country. The debtor country would be responsible for channelling the funds transparently through government systems, with accountability to its citizens for delivery according to the Paris Principles for Aid Effectiveness. The funds being channelled through the national budget would remain in local currency. A whole-of-government approach, involving ministries and public agencies and administrations, would be taken on spending for low-carbon, climate-resilient sustainable development. This would be agreed upon through collaborative in-country consultations with the private sector, civil society, communities and individuals. Lessons could be learned from existing processes such as LIFE-AR's approach for channelling adaptation climate finance through their own systems.

Figure 9. Operational model of a debt for nature and climate swap



Green arrows depict the flow of finance. Orange arrows depict roles of each actor towards delivery of climate and nature outcomes.[91]

Forward-look

Implementing the next steps will require complex international coordination as debt is now held by so many actors. We present our conclusions and recommendations below.

- The IMF has taken a leading role in promoting a post-COVID-19 Green Recovery, with the IMF's managing director and deputy managing director making statements. But these have typically focused on what countries should do rather than what the Fund can do.[92] The IMF should now state clearly how it plans to support debt for climate and nature programme swaps.
- Private creditors have formed an African Working Group on debt and operate through the Institute for International Finance to engage in debt discussions. This type of group should take an active role in supporting debt for climate and nature programme swaps.
- China is the largest holder of developing country debt and has already begun to discuss debt swaps. If the IMF and/or the World Bank were to provide a suitable policy framework this could incentivise China to speed up progress. It is hosting the biodiversity COP in May 2021, and should use this opportunity to promote debt for climate and nature programme swaps.
- The Paris Club of OECD nations, as a longstanding player in debt discussions, has a key role to play as some members have been particularly active on environment and finance. France has shown a strong commitment to biodiversity and is hosting the One Planet Summit process; Canada is a progressive G7 member and should champion climate and nature swaps in relevant forums.
- The UN and World Bank need to deploy their sustainable finance and climate expertise. UNDP is approaching some Small Island Developing States to assess their interest in debt swaps, encouraging a demand-side approach rather than as a supply-side imposition from creditor countries. The World Bank is considering a review of debt for climate and nature swaps and what lessons could be useful to inform action in the current crisis.
- Many of the large conservation NGOs that have pioneered climate and nature swaps at a project level will now need to gear up for a programme-based approach. Although they would no longer be required to manage debt swap funds, international conservation organisations could use their skills in the design of programme swaps and should welcome the more strategic policy access it provides.
- The EU with its Green New Deal should incorporate debt for climate and nature programme swaps in its development policy. It can also play a facilitative role to link up with private creditors, providing existing emission credits through the EU Emission Trading Scheme.
- The UK can facilitate the process of supporting programme debt swaps as president of the G7 and UN Climate Change Conference (COP26) in 2021. The City of London is home to many private asset management companies and the UK has been an active player in past developing country debt relief.

We call on these actors in the international community to work with debtors to establish a technical working group, under guidance of an international body such as the World Bank, to explore a climate and nature programme swap initiative.

This would pave the way for a 'climate and nature' form of the HIPC Initiative, addressing the shortcomings of that initiative in the process. Principles could be outlined in an article similar to the MoU that was produced this year under the World Bank's Debt Service Suspension Initiative. This would detail how the broad parameters of swaps can be translated into revised lending agreements, giving legitimacy to the process and supporting larger-scale engagement at lower transaction costs. It would also form a basis, similar to that enforced by the Paris Club under their 'comparability of treatment' clause, for all creditors to base their engagement on comparable lines.

Such articles could foster a transparent and legitimate channel that puts all creditors on an equal footing, incentivising the engagement of all types of creditors – including private creditors – to adopt debt for climate and nature programme swaps within the next three years.

Abbreviations and acronyms

BER	Biodiversity Expenditure Review
CBD	UN Convention on Biological Diversity
COP	Conference of the Parties
COVID-19	Novel coronavirus 2019
CPEIR	Climate Public Expenditures and Institutional Review
CPIA	Country Policy and Institutional Assessments
DOD	Disbursed and outstanding debt
DPF	Development Policy Financing
DSSI	Debt Service Suspension Initiative
ECLAC	United Nations Economic Commission for Latin America and the Caribbean
ESG	Environmental, social and governance
ETS	Emissions Trading Scheme
FCAS	Fragile and conflict-affected states
GEF	Global Environment Facility
GNI	Gross national income
HIPC	Heavily Indebted Poor Countries
IDA	International Development Association
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
IRAI	IDA Resource Allocation Index
IUCN	International Union for Conservation of Nature
LDCs	Least Developed Countries
LDCs Group	Least Developed Countries Group
LIFE-AR	LDC Initiative for Effective Adaptation and Resilience
LMIC	Lower-middle-income country
LTS	Long-term low greenhouse gas emission development strategy
MDB	Multilateral Development Bank
MDRI	Multilateral Debt Relief Initiative
MoU	Memorandum of understanding
NAP	National adaptation plan
NDC	Nationally determined contribution
NGO	Nongovernmental organisation
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goal
SIDS	Small Island Developing State(s)
TCFA	Tropical Forest Conservation Act
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization
WWF	World Wide Fund for Nature

Annex 1: Ranking of priority countries for debt for climate and nature programme swaps

This Annex presents a mapping of countries at the intersection of climate vulnerability and risk, biodiversity richness, indebtedness and creditworthiness. The objective is to support the identification of priority countries for debt for climate and nature programme swaps. Thus, the countries at the top of Table A1, ie Cabo Verde and Viet Nam, would make a strong case for being high priority for swaps.

Four indices have been used to generate this ranking:

1. Climate vulnerability and risk as measured by the World Risk Index for climate and disaster risk (2019)[14]
2. Biodiversity richness as measured by the GEF benefits index for biodiversity (2008)[5]
3. Indebtedness as measured by the World Bank data on total external debt stocks as a percentage of GNI (2018)[83]
4. Creditworthiness as measured by World Bank IRAI, an index based on the 16 CPIA indicators (2019).[26]

Table A1 shows the countries that score highest across these four indices in descending order. The same number in the first column, 'sum of quartile ranking', means that those countries have received an equal score (but not necessarily across the same categories).

Table A1. Ranking of countries based on their scores across four indices

Sum of quartile ranking	**Country**	**Income classification**	**LDC/SIDS /FCAS**	**Climate vulnerability and risk (2019 data)** (higher value represents greater vulnerability and risk)	**Biodiversity richness (2008 data)** (higher value represents greater biodiversity richness)	**Indebtedness (2018 data)** (higher value represents higher proportion of debt stock relative to GNI)	**Credit worthiness (2018 data*)** (higher value represents greater credit worthiness)
15	Cabo Verde	Lower-middle income	SIDS	18.02	94.12	89.30	3.77
=15	Viet Nam	Lower-middle income		10.31	470.06	46.70	3.69
14	Honduras	Lower-middle income		11.39	281.81	43.73	3.45
=14	Kenya	Lower-middle income		10.30	343.82	36.14	3.69
=14	Nicaragua	Lower-middle income		13.78	127.34	90.70	3.51
=14	Papua New Guinea	Lower-middle income	SIDS/FCAS	22.18	991.61	78.39	3.00
13	Cambodia	Lower-middle income	LDC	15.13	135.65	58.24	3.38
=13	Kyrgyz Republic	Lower-middle income		7.28	42.63	102.98	3.58
=13	Madagascar	Low income	LDC	10.49	1139.44	31.76	3.28
=13	Mozambique	Low income	LDC	9.50	280.15	107.57	3.21
=13	Senegal	Lower-middle income	LDC	9.82	39.86	52.37	3.72
=13	Sri Lanka	Lower-middle income		7.50	306.73	60.85	3.38
=13	Uganda	Low income	LDC	8.71	107.96	46.34	3.68
=13	Vanuatu	Lower-middle income	LDC/SIDS	56.71	81.39	45.95	3.38
12	Angola	Lower-middle income	LDC	10.56	322.23	54.00	2.67
=12	Bosnia and Herzegovina	Upper-middle income		4.71	14.40	80.41	3.60
=12	Cameroon	Lower-middle income	FCAS	12.87	487.78	28.74	3.30
=12	Côte d'Ivoire	Lower-middle income		10.03	134.00	37.92	3.47
=12	Djibouti	lower-middle income	LDC	16.46	18.82	157.61	3.11
=12	Ethiopia	Low income	LDC	7.79	326.66	33.44	3.45
=12	Georgia	Upper-middle income		5.48	24.91	110.63	4.44
=12	Ghana	Lower-middle income		9.41	72.53	36.28	3.53
=12	Guyana	Upper-middle income	SIDS	22.87	115.16	44.57	3.27
=12	India	Lower-middle income		6.77	1557.45	19.32	3.70
=12	Lao PDR	Lower-middle income	LDC	4.53	195.44	90.18	3.19

Sum of quartile ranking	**Country**	**Income classification**	**LDC/SIDS /FCAS**	**Climate vulnerability and risk (2019 data)** (higher value represents greater vulnerability and risk)	**Biodiversity richness (2008 data)** (higher value represents greater biodiversity richness)	**Indebtedness (2018 data)** (higher value represents higher proportion of debt stock relative to GNI)	**Credit worthiness (2018 data*)** (higher value represents greater credit worthiness)
=12	Mali	Low income	LDC/FCAS	10.73	58.69	29.47	3.40
=12	Mauritania	Lower-middle income	LDC	7.72	52.04	97.84	3.37
=12	Rwanda	Low income	LDC	7.45	33.22	58.04	4.04
=12	Samoa	Upper-middle income	SIDS	6.19	63.67	51.34	4.00
=12	Tanzania	Lower-middle income	LDC	9.23	575.81	33.06	3.48
=12	Zambia	Lower-middle income	LDC	7.83	146.72	73.66	3.25
11	Armenia	Upper-middle income		5.72	8.86	87.48	4.13
=11	Bhutan	Lower-middle income	LDC	3.31	43.74	109.24	3.90
=11	Bolivia	Lower-middle income		4.91	489.44	33.78	3.45
=11	Burkina Faso	Low income	LDC/FCAS	11.14	10.52	23.42	3.57
=11	Costa Rica	Upper-middle income		17.37	379.26	48.98	–
=11	Dominican Republic	Upper-middle income	SIDS	11.72	232.54	43.77	–
=11	Jamaica	Upper-middle income	SIDS	11.91	172.74	108.01	–
=11	Mongolia	Lower-middle income		3.00	162.22	253.87	3.38
=11	Niger	Low income	LDC/FCAS	13.77	35.99	36.06	3.41
=11	Nigeria	Lower-middle income	FCAS	13.11	234.20	12.42	3.13
=11	Sierra Leone	Low income	LDC	9.61	50.38	45.09	3.16
=11	Sudan	Low income	LDC/FCAS	8.52	200.43	56.91	2.28
=11	Tonga	Upper-middle income	SIDS	29.39	37.65	41.27	3.48
=11	Uzbekistan	Lower-middle income		7.90	42.63	33.89	3.58
10	Bangladesh	Lower-middle income	LDC	18.78	56.47	18.19	3.19
=10	Belize	Upper-middle income	SIDS	8.02	66.44	76.78	–
=10	Benin	Lower-middle income	LDC	12.33	8.86	35.91	3.49
=10	Chad	Low income	LDC/FCAS	11.90	84.71	29.29	2.73
=10	Congo, Dem. Rep	Low income	LDC/FCAS	8.80	777.90	10.94	2.94
=10	Congo, Rep.	Lower-middle income	FCAS	7.05	141.18	51.13	2.70
=10	Ecuador	Upper-middle income		8.48	1144.42	42.63	–

Sum of quartile ranking	Country	Income classification	LDC/SIDS /FCAS	Climate vulnerability and risk (2019 data) (higher value represents greater vulnerability and risk)	Biodiversity richness (2008 data) (higher value represents greater biodiversity richness)	Indebtedness (2018 data) (higher value represents higher proportion of debt stock relative to GNI)	Credit worthiness (2018 data*) (higher value represents greater credit worthiness)
=10	El Salvador	Lower-middle income		15.11	34.88	71.13	–
=10	Gambia, The	Low income	LDC/FCAS	12.06	3.88	42.71	2.98
=10	Haiti	Low income	LDC/SIDS/ FCAS	16.34	203.75	22.79	2.78
=10	Indonesia	Upper-middle income		10.58	3157.54	37.60	–
=10	Kazakhstan	Upper-middle income		3.56	200.43	105.70	–
=10	Liberia	Low income	LDC/FCAS	9.46	99.66	44.66	2.90
=10	Malawi	Low income	LDC	8.94	137.86	32.16	3.20
=10	Mauritius	High income	SIDS	9.47	127.90	71.77	–
=10	Moldova	Lower-middle income		3.98	0.55	61.31	3.74
=10	Myanmar	Lower-middle income	LDC/FCAS	7.27	390.89	21.55	3.02
=10	Pakistan	Lower-middle income		7.08	190.46	27.64	3.20
=10	Solomon Islands	Lower-middle income	LDC/SIDS/ FCAS	29.36	170.53	29.08	2.93
=10	St. Lucia	Upper-middle income	SIDS	4.52	53.15	35.14	3.57
=10	Tajikistan	Low income		6.24	27.13	67.65	3.05
=10	Togo	Low income	LDC	10.99	12.18	33.27	3.24

*2018 data except for nine countries, where the most recently available figure was taken (2013–2017). 2013 for Angola, Armenia, Bosnia and Herzegovina, Georgia, India; 2015 for Bolivia, Sri Lanka and Viet Nam; 2017 for Somalia.

A note on the indices used in Table A1

The indices identified as relevant to represent each of the four areas – climate risk and vulnerability, biodiversity richness, indebtedness and creditworthiness – were chosen as they are considered the closest match to what we are looking to measure. It should be noted that there will be limitations in what is captured by the indices and there are several dimensions to each of the four areas, which may not all be captured within the chosen indices.

A note on the scoring

The overall ranking is arrived at through a simple scoring method. Each country has been given a score from 1 to 4 for each of the four indicators, based on the quartile that the score fell into, according to the range of scores for that index. These scores were then added together, so countries could score a maximum of 16 points and a minimum of 4. Thus, in looking at the intersection of these areas to identify which countries could be prioritised for debt for climate and nature programme swaps, we give equal weighting to each of the four areas of climate risk and vulnerability, biodiversity richness, indebtedness and creditworthiness. Table A1 shows only the countries that score 10 or more points. Table A2 presents the quartile ranges for each index for reference.

Table A2. Quartile ranges for each index

	CLIMATE VULNERABILITY AND RISK – WRI	BIODIVERSITY RICHNESS – GEF BENEFITS INDEX	INDEBTEDNESS – WB EXTERNAL DEBT DATA	CREDITWORTHINESS – WB IRAI INDEX	SCORE RANGES
Min	0.31	0	2.323853	1.475	
Q1	3.5375	10.24986	29.2743	2.920833	Min<1<Q1
Q2	6.485	53.70528	42.45945	3.270833	Q1<2<Q2
Q3	9.5825	181.3245	62.79679	3.527083	Q2<3<Q3
Max	56.71	3900	253.8721	4.441667	Q3<4<Max

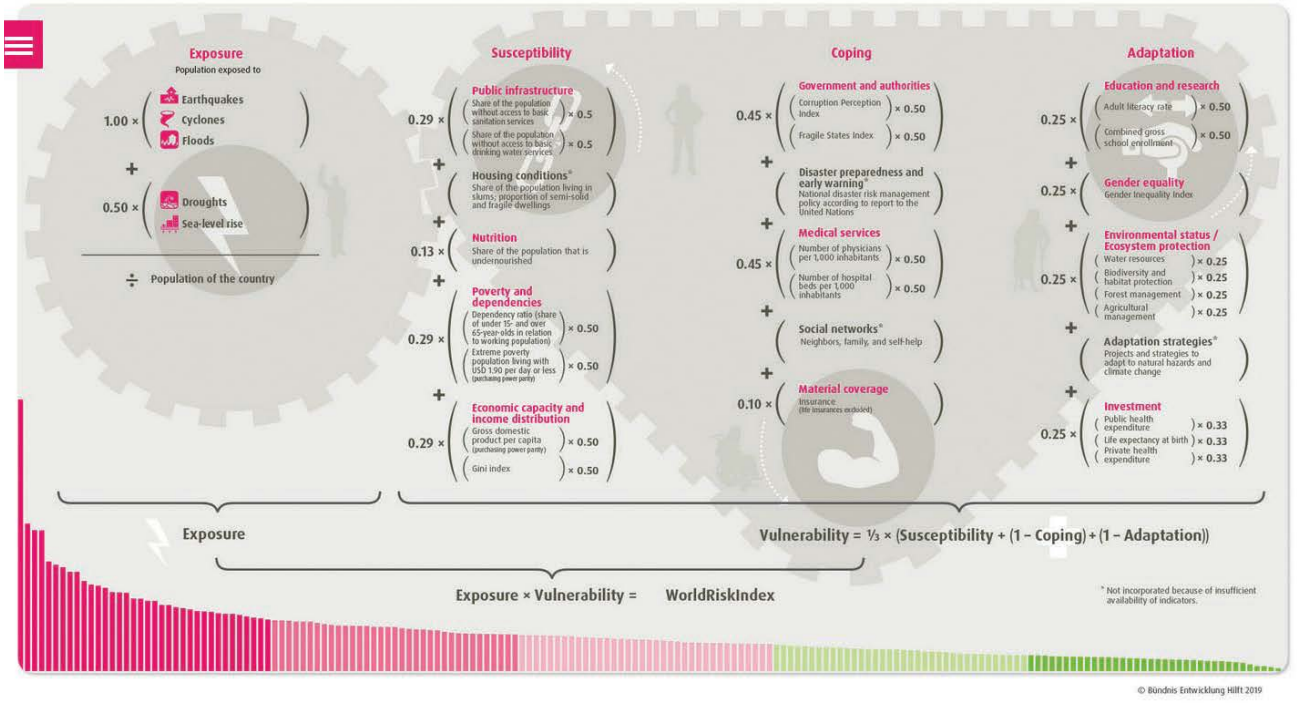
Interpretation of Table A1
The table presents a ranking of developing countries with a score of ten and above from the sum of quartile ranges, resulting in a table of 67 countries. This range of countries is presented to give an indication of which countries intersect at the four measures. In considering priority countries, country context and other country specific factors will also become important. The intention of this table is to provide some guidance of which countries could be candidates and initiate discussion.

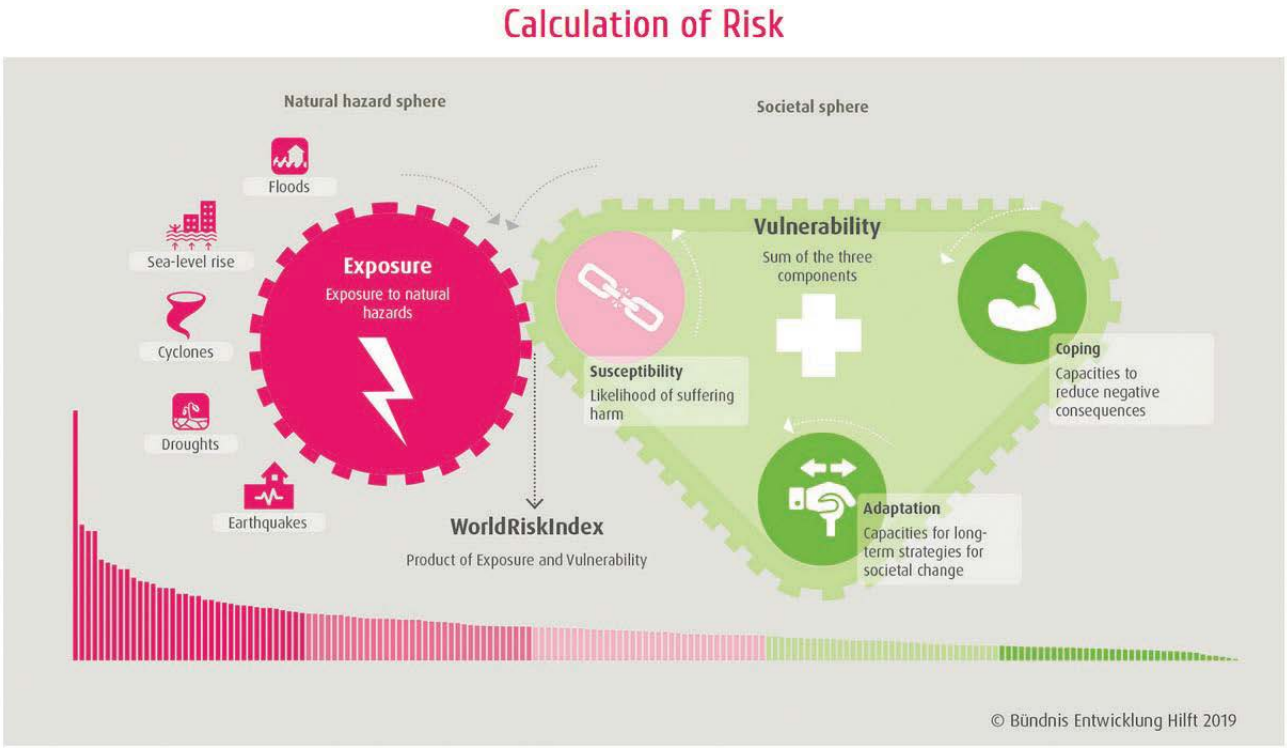
Annex 2: Indices used in the ranking table

(i) World Risk Index for climate and disaster risk (2019 data)

The World Risk Index is a climate and disaster risk index produced by Bündnis Entwicklung Hilft, the German Development Aid Alliance.[14] In 2019, the index was calculated for 180 countries. The index covers risks arising directly from earthquakes, cyclones, floods, droughts or sea-level rise. The index model is based on a calculation of exposure, susceptibility, coping capacity and adaptive capacity.

The following figures from the World Risk Report 2019[81] illustrates how the index is calculated.





(ii) GEF Benefits Index for Biodiversity (2008 data)

The Global Environment Facility (GEF) Benefits Index for Biodiversity is a composite index of relative potential of each country to generate global environmental benefits in relation to biodiversity based on the species represented in each country, their threat status and the diversity of habitat types in the country. For each country the biodiversity indicator incorporates the best available and comparable information. It provides a relative ranking of countries in relation to biodiversity potential and was intended to guide funding allocations under the GEF Resource Allocation Framework.[93] Countries with a higher index score represent greater biodiversity potential.

The GEF Benefits Index for Biodiversity is intended to be conceptually simple, scientifically based and comprehensive in its coverage of GEF-eligible countries. It draws on work by the scientific community and data compiled by various organisations including the World Wildlife Fund, Conservation International, International Union for Conservation of Nature (IUCN), Birdlife International and FishBase, the Secretariat has constructed the GEF Benefits Index for Biodiversity with the support of the World Bank's Development Research Group.

This index contains four dimensions:

- Represented species
- Threatened species
- Represented ecoregions, and
- Threatened ecoregions.

GEF notes that reporting the second dimension, the proportion of threatened species, as represented on the Red List, is complicated by the fact that not all species groups have been fully evaluated and also by the fact that some species have so little information available that they can only be assessed as data deficient. For many of the incompletely evaluated groups, assessment efforts have focused on species that are likely to be threatened, therefore any percentage of threatened species reported for these groups would be heavily biased (ie the percentage of threatened species would likely be an overestimate).

The four dimensions are calculated into the Index as follows:

$$\text{GEF Benefits Index for Biodiversity} = WT \times \text{Terrestrial Score} + WM \times \text{Marine Score}$$

$$\text{With } WT = 0.8 \text{ and } WM = 0.2$$

WT and WM are dimensional weights that reflect the consensus of the conservation scientists involved.

Source: GEF (2005).[93]

(iii) World Bank data on total external debt stocks as a percentage of GNI (2018 data)

The World Bank defines the measure 'total external debt stocks as a percentage of GNI' as follows:

Total external debt is debt owed to non-residents repayable in currency, goods, or services. Total external debt is the sum of public, publicly guaranteed and private nonguaranteed long-term debt, use of IMF credit and short-term debt. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt. GNI (formerly GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.

The debtors can be the government, corporations or private households. The debt includes money owed to private commercial banks, other governments, or international financial institutions. External indebtedness affects a country's creditworthiness and investor perceptions. Nonreporting countries might have outstanding debt with the World Bank, other international financial institutions, or private creditors. Total debt service is contrasted with countries' ability to obtain foreign exchange through exports of goods, services, primary income and workers' remittances. Debt ratios are used to assess the sustainability of a country's debt service obligations, but no absolute rules determine what values are too high. Empirical analysis of developing countries' experiences and debt service performance shows that debt service difficulties become increasingly likely when the present value of debt reaches 200% of exports. Still, what constitutes a sustainable debt burden varies by country. Countries with fast-growing economies and exports are likely to be able to sustain higher debt levels. Various indicators determine a sustainable level of external debt, including a) debt to GDP ratio b) foreign debt to exports ratio c) government debt to current fiscal revenue ratio d) share of foreign debt e) short-term debt and f) concessional debt in the total debt stock.

Dataset: International Debt Statistics[5]

(iv) World Bank IRAI (2019 data)

The World Bank's IRAI is based on the results of the annual CPIA exercise that covers the IDA eligible countries.

The CPIA rates countries against a set of 16 criteria grouped in four clusters: (1) economic management, (2) structural policies, (3) policies for social inclusion and equity, and (4) public sector management and institutions. The criteria are focused on balancing the capture of the key factors that foster growth and poverty reduction, with the need to avoid undue burden on the assessment process. To fully underscore the importance of the CPIA in the IDA performance based allocations, the overall country score is referred to as the IRAI.

The IRAI is obtained by calculating the average score for each cluster and then by averaging those scores. For each of the 16 criteria, countries are rated on a scale of one (low) to six (high).

A. Economic management

The economic management cluster includes macroeconomic management, fiscal policy and debt policy.

1. Monetary and exchange rate policies
    i. Macroeconomic management assesses the monetary, exchange rate and aggregate demand policy framework
2. Fiscal policy
    i. Fiscal policy assesses the short-term and medium-term sustainability of fiscal policy (taking into account monetary and exchange rate policy and the sustainability of the public debt) and its impact on growth
3. Debt policy and management
    i. Debt policy assesses whether the debt management strategy is conducive to minimising budgetary risks and ensuring long-term debt sustainability

B. Structural policies

The structural policies cluster includes trade, financial sector and business regulatory environment.

4. Trade

   i. Trade assesses how the policy framework fosters trade in goods

5. Financial sector
   i. Financial sector assesses the structure of the financial sector and the policies and regulations that affect it
6. Business regulatory environment
   i. Business regulatory environment assesses the extent to which the legal, regulatory and policy environments help or hinder private businesses in investing, creating jobs and becoming more productive

C. Policies for social inclusion/equity

The policies for social inclusion and equity cluster includes gender equality, equity of public resource use, building human resources, social protection and labour and policies and institutions for environmental sustainability.

7. Gender equality
   i. Gender equality assesses the extent to which the country has installed institutions and programs to enforce laws and policies that promote equal access for men and women in education, health, the economy and protection under law
8. Equity of public resource use
   i. Equity of public resource use assesses the extent to which the pattern of public expenditures and revenue collection affects the poor and is consistent with national poverty reduction priorities
9. Building human resources
   i. Building human resources assesses the national policies and public and private sector service delivery that affect the access to and quality of health and education services, including prevention and treatment of HIV/AIDS, tuberculosis and malaria
10. Social protection and labour
    i. Social protection and labour assess government policies in social protection and labour market regulations that reduce the risk of becoming poor, assist those who are poor to better manage further risks and ensure a minimal level of welfare to all people
11. Policies and institutions for environmental sustainability
    i. Policy and institutions for environmental sustainability assess the extent to which environmental policies foster the protection and sustainable use of natural resources and the management of pollution

D. Public sector management and institutions

The public sector management and institutions cluster includes property rights and rule-based governance, quality of budgetary and financial management, efficiency of revenue mobilisation, quality of public administration, transparency, accountability and corruption in the public sector.

12. Property rights and rule-based governance
    i. Property rights and rule-based governance assess the extent to which private economic activity is facilitated by an effective legal system and rule-based governance structure in which property and contract rights are reliably respected and enforced
13. Quality of budgetary and financial management
    i. Quality of budgetary and financial management assesses the extent to which there is a comprehensive and credible budget linked to policy priorities, effective financial management systems and timely and accurate accounting and fiscal reporting, including timely and audited public accounts
14. Efficiency of revenue mobilisation
    i. Efficiency of revenue mobilisation assesses the overall pattern of revenue mobilisation – not only the de facto tax structure, but also revenue from all sources as actually collected
15. Quality of public administration
    i. Quality of public administration assesses the extent to which civilian central government staff is structured to design and implement government policy and deliver services effectively

16. Transparency, accountability and corruption in the public sector

    i. Transparency, accountability and corruption in the public sector assess the extent to which the executive can be held accountable for its use of funds and for the results of its actions by the electorate and by the legislature and judiciary and the extent to which public employees within the executive are required to account for administrative decisions, use of resources and results obtained. The three main dimensions assessed here are the accountability of the executive to oversee institutions and public employees for their performance, access of civil society to information on public affairs and state capture by narrow vested interests

Sources: IDA and World Bank (2019a; 2019b; 2020e; 2020f; 2020g).[20,26,29,30,95]

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Even before COVID-19, fears were growing over developing country debt, which had surpassed US$8 trillion by the end of 2019. The pandemic has made the situation much worse as its economic impact pushes millions more women, children and men in these countries into poverty. This paper shows how, as part of pandemic economic rescue packages, governments have an opportunity to address simultaneously the crises of debt, climate and biodiversity destruction through a new use of the system of debt for climate and nature programme swaps. Increasing the use of these types of debt swaps would benefit lender and debtor governments as well as private creditors.

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