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International Financial Architecture and Financial Engineering for the Climate and Nature

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CONTENTS

DEFINITIONS & ACRONYMS

ACC – Adaptation to climate change
CAC – Collective Action Clause
CBI – Climate Bond Initiative
CC – Climate change
COP – Conference of the Parties
CRD – Climate Resilient Development: IPCC definition: "Striving for Climate Resilient Development means reducing exposure and vulnerability to climate hazards, cutting back greenhouse gas emissions and conserving biodiversity are given the highest priorities in everyday decision-making and policies on all aspects of society including energy, industry, health, water, food, urban development, housing and transport. It is about successfully navigating the complex interactions between these different systems so that action in one area does not have adverse effects elsewhere and opportunities are harnessed to accelerate progress towards a safer, fairer world."
DAC – Development Assistance Committee
DCS – Debt-for-climate swap
DCs – Developing countries
DNS – Debt-for-nature swap
DRR – Disaster risk reduction
DSSI - Debt Service Suspension Initiative
ESG – Environmental, Social and Governance investing
GHG – Greenhouse gas
HIPCs – Heavily Indebted Poor Countries
ICMA – International Capital Market Association
IDA – International Development Association, World Bank Group
IFC – International Finance Corporation
IMF – International Monetary Fund
IPCC – Intergovernmental Panel on Climate Change
KPI – Key performance indicators
LMIC – Low- or Middle-income Country
LTS – Long-term strategy
MDR – Multilateral Debt Relief
MDRI – Multilateral Debt Relief Initiative
NAP – National Adaptation Plan
NDCs – Nationally Determined Contributions
ODA – Official Development Assistance
Reduction/Transfer/Retention – Analytical framework for a comprehensive approach to risk management that characterizes **risk management** processes, instruments and policies. **Reduction** of risks: actions that reduce the probability of occurrence of a risk or the scale of its impact (*e.g.*, change in construction standards). **Transfer** of risks: transfer of risk towards another entity (*e.g.*, insurers). **Retention** of risks: acceptance to bear the risks with an *ex post* management plan (*e.g.*, disaster management fund)
SDGs – Sustainable Development Goals
SDR – Special Drawing Rights
SIDS - Small Island Developing States
UN – United Nations
UNFCCC – United Nations Framework Convention on Climate Change

INTRODUCTION

The COP climate and biodiversity negotiations often focus on the issue of the financial resources that are mobilized or need to be mobilized for action and investment related to the climate or biodiversity. The succession of recent crises and global events (Covid-19, war in Ukraine, inflation and rate hikes) has reduced fiscal space and compromised the debt sustainability of a number of countries, while there are still major financing needs for climate-resilient development trajectories. This note will analyze the various situations specific to these countries beyond simply the issue of financial mobilization. Indeed, some countries are more or less concerned by adaptation issues, while others are faced with mitigation and the transition, or biodiversity protection, or all three. And they are all a common component of an SDG 2030 Agenda.

A number of developing countries (DCs) are faced with an increase in environmental and natural risks. This may be due to existing and growing vulnerabilities,[1] the increased frequency or severity of natural risks, such as chronic or acute climate risks, and the degradation of ecosystem services and biodiversity loss. At the same time, DCs find themselves in diverse financial situations, as some countries are already in situations of debt distress which require restructuring, while others wish to have access to non-domestic financial resources without significantly deteriorating or compromising the sustainability of their debt.

The first part of this note outlines the challenges and possible reforms of the global debt restructuring framework. It also sets out the many proposals for structural reforms to the global framework embodied by the historical institutions that came about through the agreements of Bretton Woods or the OECD's DAC.

The second part explores a wide range of financing solutions (financed or non-financed) that can be used, on a case-by-case basis, for the reduction, retention or transfer of environmental and natural risks. They are often financial instruments and mechanisms that are more or less appropriate depending on the target and the specific situation of each country (level of exposure to natural risks, fiscal and debt capacities, size of the country…) and are implemented before (*ex ante*) or after (*ex post*) the materialization of the risk. They are addressed through four main groups: i. debt instruments indexed to the results or risk, ii. international carbon and climate credit/finance systems, iii. insurance mechanisms, and iv. climate funds. Finally, these financial mechanisms and instruments can be blended to produce a multiplier effect, while being mindful of the need to ensure that they are part of a climate-resilient development trajectory.[2]

1. GLOBAL FRAMEWORKS AND INTERNATIONAL FINANCIAL ARCHITECTURE

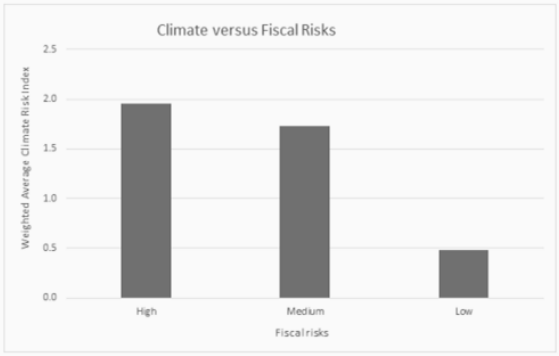
1.1. DEBT AND CLIMATE VULNERABILITIES, THE VICIOUS CIRCLE

According to a study conducted by the IMF in 2022,[3] it has been found that among the group of 128 low- or middle-income countries (IMF classification), there is a strong concordance between countries exposed to climate risks[4] and the limitations of the fiscal capacity that would serve to finance their resilience to these risks. Figure 1 shows that among the 59 above-median countries in terms of exposure to climate risks, 34 have a high fiscal risk, 20 a moderate risk, and only 5 have a low risk of fiscal crisis.

1 For example, vulnerabilities can increase due to rising inequality or the deterioration of regulatory standards.
2 In the sense of the IPCC's CRD.
3 IMF WP 2022 "Debt-for-Climate Swaps: Analysis, Design, and Implementation".
4 It is important to note that climate vulnerability indicators, such as INFORM and ND-GAIN, include a component on vulnerability and/or governance and are thereby correlated with income indicators.

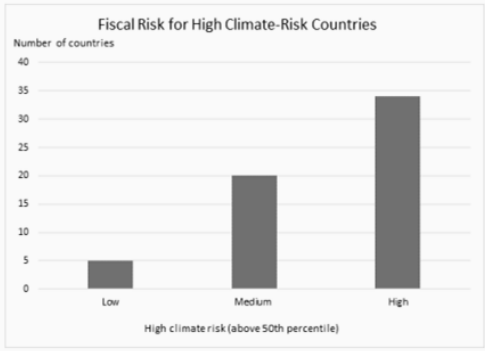
Figure 1: Climate vulnerability and fiscal capacity

Figure 1. Countries' Fiscal Risk Categorization and Climate Vulnerability



Source: Authors.

Figure 2. Number of Countries with Above-Median Climate Risk, by Probability of Fiscal Crisis Risk



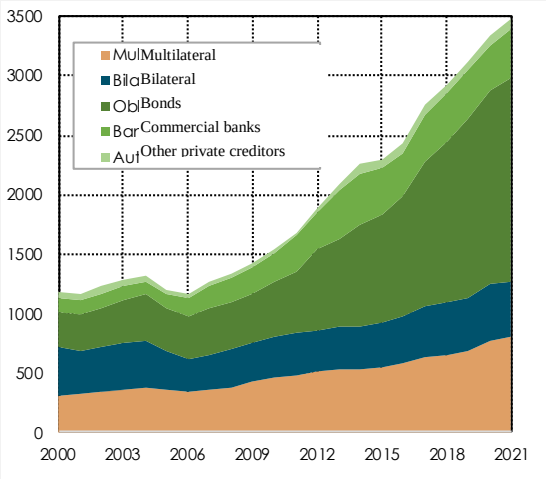
Source: Authors.

Note: Based on an overall sample of 128 low-and middle-income countries. Climate risk is measured using the IMF Climate-driven INFORM Risk Composite Index (IMF, 2021a). Fiscal risk is assessed using a machine learning model (see Hellwig 2021) supplemented by IMF desk economist judgment. Figure 2 focuses on 59 low- and middle-income countries that have climate threats at or above the median and divides those countries into three groups based on their risk of fiscal crisis in the next two years.

Source: IMF WP 2022 "Debt-for-Climate Swaps: Analysis, Design, and Implementation".

Besides fiscal capacity, the structure of public debt in all DCs has also gradually changed (Figure 2). The external public debt of DCs has more than doubled over the last decade (from $1.679 trillion to $3.482 trillion between 2011 and 2021). There are several reasons for this increase in debt: i) a decade of super-accommodative monetary policies in developed countries, which has prompted international investors to seek other sources of returns. They have turned towards DCs, attracted by higher interest rates and a more favorable economic outlook; ii) more recently, the Covid-19 crisis, which was a major economic shock, involving exceptional fiscal, financial and economic measures and resulting in a historically unprecedented increase in global debt. The pandemic has brought the issue of the sustainability of public debt to the forefront once again, and iii) the significant increase in financing from emerging bilateral donors, *i.e.*, China, India, Russia, Turkey and the States of the Middle East, outside the Debt Sustainability Framework.

Figure 2: Changes in the structure of the external public debt of DCs ($ Bn)



Source: World Bank (IDS), authors' calculations.

The appetite of private creditors has been one of the main drivers of this increase. Indeed, the share of debt held by them (bonds, commercial banks, other) rose from 40% of total debt in 2000 to 63% in 2021. However, the increase in external public debt towards private creditors has not replaced official sources of financing: between 2000 and 2021, bilateral and multilateral financing also increased, by an annual average of 0.75% and 4.62% per year, respectively.[5]

While there would not necessarily appear to be a link between the tensions on the fiscal capacity and debt of DCs and the climate crisis, they do nevertheless have adverse effects on each other and are, in some respects, interrelated.

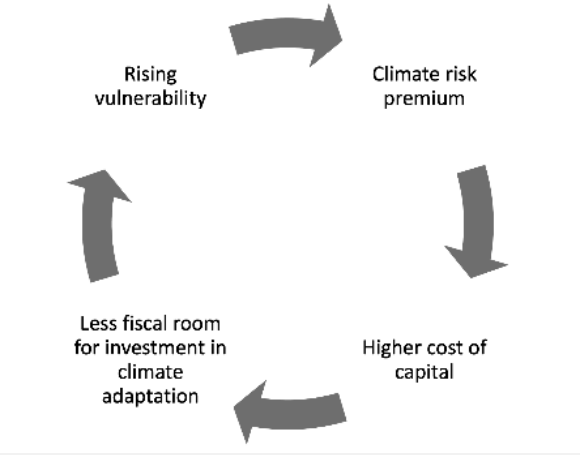
With the increase in their debt, DCs have a smaller budget to invest in climate change mitigation and adaptation policies. This has been exacerbated by the Covid-19 crisis, which reduced the already narrower fiscal space of DCs.

5 MacroDev Semestrial Panorama 2023 #1 "Emerging and Developing Countries: The Noose is Tightening".

These countries have both fewer resources for their climate-related policies and less fiscal space to cope with potential natural disasters.

At the same time, extreme climate events increase the debt of the affected countries and raise their borrowing costs. This vicious circle between vulnerability to climate risks and less fiscal space and increased debt is well known. The snowball effect of the increase in the cost of risk combined with debt can be shown as follows (Figure 3):

Figure 3: Climate vulnerability and fiscal space



Source: Volz, "Climate Change and the Cost of Capital in Developing Countries".

In addition to the increase in the cost of debt, fiscal space can be reduced due to the reduction in the tax base or the rise in public expenditure following the materialization of climate risks. In this respect, and in order to address these anticipated or actual difficulties, the group of V20 countries (https://www.v-20.org/members), composed of 68 nations representing 5% of global GHG emissions with profiles of high vulnerability to climate change (CC), have voiced demands to international bodies for a massive restructuring plan combined with climate commitments. On the sidelines of COP26 in Glasgow, the V20 called for a major generic Debt-for-Climate Swap (DCS), "a major debt restructuring initiative for countries overburdened by debt – a sort of grand-scale climate-debt swap where the debts and debt servicing of developing countries are reduced on the basis of their own plans to achieve climate resilience and prosperity." The financing mechanisms of countries vulnerable to CC will be a key issue at the Summit for a New Global Financial Pact in Paris in June 2023, announced to take stock "on all the means and ways of increasing financial solidarity with the South." This Summit has four main objectives which will be monitored by four working groups:

- Give new fiscal space to countries faced with difficult situations in the short term, especially the most indebted countries
- Promote private sector development in low-income countries
- Promote investment in "green" infrastructure for the energy transition in emerging and developing countries
- Mobilize innovative financing for countries vulnerable to climate change

At the same time, and following the 76th edition of the Annual Meetings of the Bretton Woods institutions from 10 to 16 October 2022 and at the initiative of the USA, the G7[6] set out its expectations for reform proposals from the World Bank Group (WBG). The focus is on the mechanisms for the WBG to step up its support for global public goods. Four main areas were specified:

- A strategic vision that would restore a balance between national priorities and the priorities of development banks by targeting their synergies, especially in low-income countries
- The increase in demand for domestic investment in development banks would require stronger incentives (concessional and regular resources)
- Changes in operating methods would systematically link up national priorities with the SDGs, strengthen private sector mobilization, optimize the use of the IDA, and provide more support to sub-sovereign actors

6 Joined by three other countries (G7+3: Australia, the Netherlands and Switzerland).

- The WBG will require an increased financial capacity to achieve these new objectives. The G7+3 recalls the main recommendations of the independent review of the solvency framework of multilateral development banks

The following section analyzes all the proposals and calls for structural or systemic reforms by various stakeholders, mainly from countries of the Global South.

1.2. STRUCTURAL REFORMS TO THE GLOBAL FRAMEWORK

The Covid-19 crisis, combined with the war in Ukraine, has led to a certain consensus that the international financial architecture is perhaps no longer suited to the current global issues. Several countries called for a reform of this financial architecture during the UN General Assembly in 2021, in particular calling for debt restructuring to be linked to climate targets. This call was strengthened at COP26, in particular with the speech by the Barbadian Prime Minister, who presented the Bridgetown Initiative to reform the international financial architecture.[7] The objective would be to channel global financial resources towards low-carbon and climate-resilient development, and which would contribute to resolving the sovereign debt crises of DCs. While international institutions have started to implement several mechanisms to tackle climate change, and at the same time provide financing,[8] many actors still consider that these efforts are insufficient.

2023 is therefore intended to be a year of reforms for development finance, with a number of events organized this year to consider these issues. Several proposals[9] are already on the table, many of which were expressed by countries of the Global South at the United Nations General Assembly in 2021,[10] and at the meeting of the Conference of African Ministers of Finance held in March 2023.[11] They include:

- The establishment of a multilateral legal framework for sovereign public **debt restructuring and relief**. It would be more inclusive than the single Common Framework introduced in 2020, reserved for certain countries and only including bilateral creditors
- The establishment of a **public register of data** on the debt of DCs
- The adoption of **debt and climate instruments**
- The use of Special Drawing Rights (**SDR**)[12] for specific purposes, such as the achievement of the SDG agenda and adaptation to CC
- The revision of the **Risk Appetite Framework and an increase in the financing capacity of international development institutions**, in response to the low volume of climate finance commitments (**see Appendix 1**). In this respect, the group of experts mandated by the G20 in 2021 has published a report entitled "An Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks", providing recommendations on a more favorable treatment of callable capital, along with proposals for balance sheet securitization operations and, more generally, for increasing the leverage effect. Following this report, the World Bank published a Statement on Evolution Roadmap[13] which could subsequently inform broader discussions on reforms of the international financial architecture as a whole
- The creation of a new climate vulnerability index (beyond the level of revenue) as a condition for ODA financing
- The exclusion of climate investments from budgetary discipline rules
- The continuation of negotiations on **climate justice** and loss and damage
- The **reform of rating agencies** in order not to penalize countries facing CC, through several proposals such as: i. transparency, in particular in the discretionary and expert judgments and the integration of analyses based on debt path scenarios, ii. the revision of rating towards a longer time horizon.[14]

7 https://www.foreign.gov.bb/the-2022-barbados-agenda/
8 For example, the IMF's Catastrophe Containment and Relief Trust (CCRT), to provide debt relief in the event of a disaster.
9 https://drgr.org/news/un-general-assembly-2021-debt-highlights/
10 https://www.eurodad.org/un_general_assembly_2021_debt_highlights
11 54th session of the Economic Commission for Africa | United Nations Economic Commission for Africa (uneca.org)
12 SDR are an international monetary instrument created by the IMF in 1969 to supplement the existing official reserves of member countries.
13 https://www.worldbank.org/en/news/statement/2023/01/13/world-bank-group-statement-on-evolution-roadmap
14 UN Department of Economic and Social Affairs - 2022 - Credit Rating Agencies and Sovereign Debt: Four proposals to support achievement of the SDGs.

But the calls to reform the global framework are nothing new and have existed since the globalization of financial markets. No institution has responsibility for global financial movements. There are a multitude of institutions, both international (IMF, World Bank, WTO, BIS), and regional (OECD, European Commission, BIS, etc.). Beyond the differences of opinion over the role that these institutions should play, and whether or not it would be useful to establish standards and controls at international level, the proliferation of innovations in development finance instruments could make any transformation of the international financial architecture rapidly obsolete again, as it must be negotiated and regulated.

1.3. THE GLOBAL DEBT RESTRUCTURING FRAMEWORK FACED WITH CLIMATE ISSUES

While the amounts of public debt have risen, there are an increasing number of different types of creditors, creating new challenges in debt restructuring frameworks. There has also been a crossover between resident/non-resident holders of debt denominated in local currency or foreign currency (example of Ghana). Debt renegotiations are effectively not conducted in the same way if they involve bilateral, multilateral or private creditors.

Several debt restructuring or suspension initiatives have emerged over the years, depending on the needs and debt crises. Apart from "ad hoc" restructuring operations specific to countries experiencing particular constraints and related to their economic situation, several programs initiated by international institutions were introduced starting in the 2000s, to address more general debt situations. The Heavily Indebted Poor Countries (HIPC) Initiative and Multilateral Debt Relief Initiative (MDRI) are notable examples. More recently, in May 2020 in the context of the Covid-19 crisis, the G20 countries adopted the Debt Service Suspension Initiative (DSSI), which aims to temporarily suspend debt service payments for 73 of the world's poorest countries. In August 2021, the IMF increased its reserves by issuing SDR to allow countries that so wish to use these SDR to meet their external financing requirements.

The HIPC Initiative and the DSSI were introduced by one of the most recognized restructuring forums: the Paris Club. Founded in 1956 and composed of 22 bilateral creditors, mainly from developed countries, in partnership with the IMF and World Bank, it has developed a set of rules to provide coordinated solutions tailored to the needs of countries in debt distress requiring a renegotiation of their external public debt.

However, the Paris Club creditors are at present no longer the largest bilateral creditors. The "new" bilateral creditors, such as China and India, are effectively not members. To address this new international context, the G20 countries have set up a "Common Debt Treatment Framework" to allow countries eligible for the DSSI to request a restructuring of their debt in the event of unsustainable levels of debt and persistent funding gaps. This new body paves the way for better coordination between Paris Club member and non-member bilateral creditors. But this process does have several shortcomings and in particular excludes:

- Multilateral creditors, which usually do not propose debt treatment, but alternatively offer additional financing
- Private creditors, which have assumed considerable importance (**see Figure 2**) and do not necessarily comply with the debt restructuring processes proposed by bilateral creditors, de facto limiting the impact of the initiative

Debt treatments *via* the Common Framework are, however, open to the world's 73 poorest countries. Middle-income countries, which are weakened just as much by the current wave of monetary tightening, are thereby de facto excluded. Furthermore, the negotiations remain tough with slow progress for the four countries which have so far called on this mechanism: Chad, Ethiopia, Ghana and Zambia.

Beyond the slowness of the process and divergence of interests among the various types of creditors, the global debt restructuring framework currently does little to address climate issues. While climate investment is gaining in importance, it has thus far only played a minor role in debt restructuring. At the same time, climate issues are becoming increasingly important and there are a growing number of financial instruments proposing innovative solutions to combine finance and climate change.[15] Certain instruments, for example, debt-to-climate swaps (**see Part II.1.1**), have returned to the forefront in recent years and not only focus on the fight against climate change, but also on nature protection.

15 *C.f.* Note d'éclairage #19 : La durabilité à travers la Finance.

The issue of mitigating or offsetting the loss incurred from debt restructuring, by making the efforts by creditors conditional on the pursuit of quantifiable and verifiable climate objectives by a country (a government) is becoming increasingly important in the current debates. This type of framework already exists to a certain extent for green bonds, and several international initiatives and platforms have emerged on issues related to debt swaps, or more generally on financing the SDGs.

A growing number of research groups, civil society groups and, to a lesser extent, international institutions, advocate solutions to tackle both climate change and the increase in public debt. The combined increase in cases of debt distress and heightened climate risks prompts the need for more discussions in this respect, and to devise new tools to allow DCs to return to a sustainable debt path, beyond the Common Framework for Debt Treatment.

However, it should be noted that sovereign debt restructuring remains specific to each country and that various solutions can be adopted depending on the different economic contexts of each country.

Box 1 – CAC clauses between bond market creditors and multilateral and bilateral donors

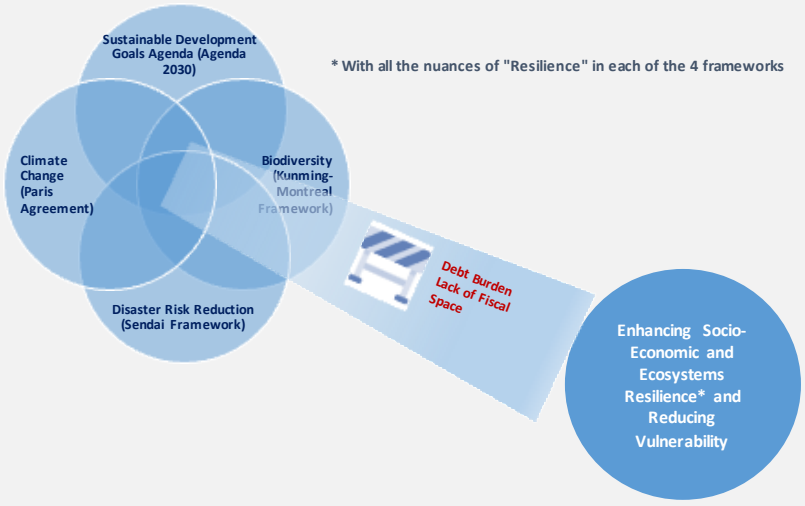
Sovereign debt restructuring frameworks deserve an entire chapter and this box addresses holdout creditors, referring to creditors who are unwilling during processes to negotiate the restructuring of debt obligations. The case of Argentina in 2005 is emblematic. Collective action clauses (CAC), requiring a minimum quorum and not a vote obligation by obligation as with standard clauses, have been generalized since 2014 under the impetus of the IMF, even with DCs, and have significantly improved existing restructuring plans.[16] There have been emission premiums in DCs for CAC which have reduced the duration of negotiations, as illustrated by the cases of Argentina and Ecuador in 2020. The improvement in the restructuring framework for the bond market is therefore a major and positive step forward, and it would be timely to consider a generic CAC system that would attract all, or failing that, a significant proportion of the other lenders: bilateral, multilateral, commercial lenders (domestic and international syndicated loans).

2. COORDINATED FINANCING FOR THE FOUR AGENDAS

After outlining all the reforms and proposals for a new financing and debt restructuring pact, this second part focuses on the financing solutions that can be deployed for several agendas and their potential impact on the debt of recipient countries. Financing solutions are construed as meaning additional financial resources that are **released (*e.g.*, disbursed through a loan or grant) or reallocated (redirection of the suspended debt service towards budget expenditure)** whether or not on a conditional basis, according to their own specific terms and costs. These financing instruments or mechanisms are complementary or additional to budgetary funding. They are only relevant and effective if a number of preconditions are in place, and will not be developed specifically in this note: institutional coordination, progress in existing policies, governance, technical and institutional capacities, etc. The four groups that will be addressed are the following: **debt instruments, insurance mechanisms, carbon/nature finance, and climate funds**.

16 Collective Action Clauses in a Rising Debt World, Florian Späte, Guillaume Tresca, 25 October 2021.

Figure 4: Coordination of the four agendas



Source: Authors, based on techpaper_adaptation.pdf (unfccc.int).

The case of the recent floods in Pakistan is at the intersection of the three agendas, namely climate risks, disaster risks and sustainable development, all within a context of fiscal strains for the Pakistani Government. Despite considerable advances with "attribution science", it remains difficult to separate the climate agendas from the agendas for disaster risks and they de facto overlap: "acute" physical climate risks overlap with disaster risks and the Sendai Framework[17] related to disaster risks. "Chronic" physical risks are closer to the adaptation and sustainable development components. The fourth agenda is the biodiversity agenda, which will be addressed less in this note. Conversely, risk mitigation solutions need to be analyzed through the different agendas. Efforts towards these agendas must be coherent and coordinated and save time and money.[18]

Box 2 - Convergence of DRR and ACC agendas – reduction of disaster and adaptation to CC risks [19]

The successive frameworks for disaster risk management address disaster risks as an integral part of development: a management based less on events and more on processes. The development of knowledge on climate change during the 2010s brought together the scientific agendas and the two fields (DRR and ACC): these two fields largely overlap through the common factor of the weather and the climate and the similar tools used to monitor, analyze and address the impacts, notably a common framework for risk management. This development can in particular be seen with the introduction of the concept of risk in the field of adaptation, based on the IPPC - SREX report (2012) and the 5th IPPC report (2014), which aims to identify and assess the risk of the impacts of climate change. The Sendai Framework (2015-2030) has continued previous efforts by indicating that measures to reduce disaster risks must be included in all development assistance programs related to all sectors, including "poverty reduction, sustainable development, natural resources management, the environment, urban development, and adaptation to climate change": proposals for a comprehensive and integrated approach are under preparation and within this framework, UNDRR produced a guide with GIZ in 2022 entitled "Technical Guidance on Comprehensive Risk Assessment and Planning in the Context of Climate Change", which aims to provide guidelines on how to address risks in a comprehensive and systemic manner through risk assessment in the context of climate change. This comprehensive and integrated approach to risks is also central to the mandate of the Warsaw International Mechanism (WIM), the institutional mechanism dedicated to the issue of loss and damage.

As is the case with the insufficient climate finance flows towards adaptation, to the benefit of mitigation, there is an imbalance in disaster risk management in favor of post-event financing and to the detriment of funding for prevention. The latter partly overlaps with adaptation which is, here again, underfunded. For example, a total of $5.2 billion was devoted to disaster risk reduction between 2005 and 2017, accounting for only 3.8% of the total

17 Disaster Risk Reduction https://www.oecd-ilibrary.org/sites/3edc8d09-en/1/3/1/3/index.html?itemId=/content/publication/3edc8d09-en&_csp_=8d7fe96fcbc0ad554dc42a70774e2b7e&itemIGO=oecd&itemContentType=book
18 Each agenda is formulated through a separate process with different actors and different frameworks, and the basic concept of resilience is addressed somewhat differently in each agenda. Source: https://unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.33/2018/mtg4/S3_2_unfccc.pdf
19 Source: Territorialisation des politiques d'adaptation au changement climatique (ACC) et de la gestion des risques de catastrophe (GRC) : Quels messages pour les collectivités locales? et quels besoins en matière de recherche ?

amount of assistance for disaster management (UNDRR, 2019). In general, post-disaster assistance (dedicated to reconstruction, rehabilitation and recovery) dominates, at the expense of financing devoted to understanding the underlying vulnerabilities that contribute to the risk and reducing them. However, the creation of the InsuResilience Global Partnership in 2015 under Germany's G7 Presidency marked a turning point in support for the financial management of climate risks in developing countries. International financial institutions have begun to shift from a collective loss-sharing strategy through post-disaster assistance to providing support for the design of financing strategies *ex ante*, comprising risk transfer mechanisms operated by a specialized financial industry or mutual risk insurance funds. The coordination of the Loss and Damage agenda with the concept of comprehensive risk management is explained below (**see Box 3**).

Box 3 – Loss and Damage

Loss and damage refer to the risks and adverse impacts of climate change. They may occur following extreme events or slow-onset events and be economic or non-economic. When capital letters are used, the term refers to the political debate on this notion within the UNFCCC. Given the controversial nature of certain issues related to the absence of a definition approved by the UNFCCC, a series of measures to define what they refer to have emerged in the course of the negotiations (from the equivalence of L&D to adaptation to their association with an existential and irreversible threat).

However, some points of consensus have been reached in the course of 30 years of negotiation. The final COP25 document acknowledges that loss and damage "includes, and in some cases involves more than, that which can be reduced by adaptation" (UNFCCC, 2019). Within the Warsaw International Mechanism (WIM), the institutional mechanism dedicated to the issue of loss and damage adopted in 2013, there has been extensive and diversified work on how to reflect the concerns of the various parties. The concept of Comprehensive Climate Risk Management is central to the mandate of the WIM. It resides in the integrated design of analytical instruments for risks and the reduction, retention and transfer of risks applied to various risk segments.

In this context, insurance instruments have become central in the discussion on financing solutions for loss and damage, as can be seen with the InsuResilience Global Partnership of the G7 and V20 in 2015 and its revised version, the Global Shield Against Climate Risks, formalized at COP27 in 2022. While insurance has been highlighted for its ability to generate post-disaster reimbursements while playing a pivotal role in risk reduction strategies, the Global Shield initiative has the explicit objective of mobilizing a set of tools in a coordinated manner to allow countries to develop segmented approaches to risk financing. In the context of national dialogues, the systematic analyses of protection gaps aim to enable the implementation of a comprehensive range of instruments for CDRFI (Climate and Disaster Risk Finance and Insurance) to address them.

The landmark decision taken at COP27 to develop "new financial arrangements" dedicated to Loss and Damage is based on the recognition of financing gaps concerning the current architecture of financing for climate risks and impacts which may, as a result of this new context, be amended and supplemented.

Debt instruments naturally dominate the range of solutions presented here, both through the disparity of debt instruments and the volume of transfers they represent. It should be noted that nearly 60% of external financial transfers towards DCs are more or less covered by FDI (foreign direct investment), portfolio investments and diaspora remittances, and 40% by debt (bilateral, multilateral, private). This obviously varies depending on the year and the country. **Figure 5** presents an overview of the financing solutions and their relevance for *ex ante* or *ex post* interventions or for chronic and acute risks, as well as for mitigation. It is given as an indication, as the rules of relevance do not apply in such a clear-cut manner.

Figure 5: Overview and purpose of financing solutions

✔ indicates that the instrument is appropriate and ✘ indicates the opposite. This table is for reference only and sometimes simplified: other criteria such as the institutional capacity of each country is also a discriminating factor

LMIC (Low- or Middle-Income country) with unsustainable debt or HIPC (Heavily Indebted Poor Country)

LMIC with high but sustainable debt

Other DCs

Conventional or earmarked debt instruments	Complexity	Precondition (not unique)	Mitigation and financing of the transition	*Ex ante* **Reduction** Reduction of **chronic** physical risks by financing adaptation and resilience	*Ex ante & ex post* **Retention** Reduction of **acute** physical risks and disaster risks	*Ex post* **Transfer** Transfer of **acute** physical risks and disaster risks
Non-earmarked conventional debt		Accessible	✘ ✔ ✔	✘ ✔ ✔	NA	NA
Earmarked debt instruments with no revision of the margin		Accessible	✘ ✔ ✔	✘ ✔ ✔	NA	NA
Earmarked debt instruments with a revision of the margin		Supervision and management capacity	✘ ✔ ✔	✘ ✘ ✘	NA	NA
Debt to Climate/Nature/SDG Swaps		Not recommended for resolving a problem of unsustainable debt	✘ ✔ ✘	✘ ✔ ✘	NA	NA
Debt instruments indexed to risk						
Debt with suspension clause		Institutional capacity	✘ ✔ ✔	✘ ✔ ✔	NA	NA
Catastrophe bond		Institutional capacity and access to capital markets	NA	NA	NA	✘ ✘ ✔
Contingency loan		Institutional capacity	NA	NA	✔ ✔ ✔	NA
Contingency fund		Institutional capacity	NA	NA	✔ ✔ ✔	NA
Finance/carbon credits/biodiversity		**If national regulatory framework on carbon markets consistent with international markets and mechanisms**	✔ ✔ ✔	✔ ✔ ✔	NA	NA
Climate funds						
Adaptation funds		Institutional capacity and governance system	NA	✔ ✔ ✔	NA	NA
Mitigation funds		Institutional capacity and governance system	✔ ✔ ✔	NA	NA	NA
Insurance mechanisms		**Institutional capacity and governance system**				
Individual non-domestic insurance (parametric)		Institutional capacity and governance system	NA	NA	NA	✔ ✔ ✔
Domestic insurance (private or sovereign)		National regulatory framework and inclusion	NA	NA	✔ ✔ ✔	NA
Risk pooling between several countries		Regional cooperation	NA	NA	NA	✔ ✔ ✘
Blended instruments with enhancement of credit or insurance: haircuts on debt restructuring, subsidies/grants, guarantees, first losses... Example: - Debt restructuring under the Common Framework or another framework - Insurance with premium subsidy - Contingency fund backed by grants - Climate/Nature/SDG to Debt Swaps enhanced with a guarantee - Debt with suspension clause combined with credit enhancement (*e.g.* guarantee) and/or parametric insurance - Restructuring with carbon credit coupons (attract the private sector) - ...			Treatment on a case-by-case basis			

Source: Authors.

2.1. EARMARKED DEBT INSTRUMENTS

2.1.1. Performance-based instruments

Instruments for bonds and loans that are indexed to socio-environmental KPI or earmarked (*e.g.*, green bonds/loans, blue bonds/loans and sustainability-linked bonds) are slowly starting to become standardized, and certain DCs with access to capital markets have already issued some securities. Some of these instruments include a step-down interest margin in the event of the achievement of the negotiated KPI.

The global volumes remain limited, as is the case for green bonds[20] which only account for 3% of the world bond market. In DCs (excluding China), in 2020, these instruments accounted for about 4% of total bond issues. However, the issuers are often overrepresented by financial institutions, to the detriment of governments which issue on the basis of quite fragmented schemes: regional and national frameworks, IFC support, CBI framework, etc. Following the strong market interest in this type of instrument over the last three years, they are losing momentum (**see Appendix 2**) for several reasons, including: the time delay in terms of the results of the first unwinding operations of margin revision mechanisms, and reputational risks of greenwashing, in particular due to the absence of regulated normative frameworks.

Benefits:

There are two main mechanisms regarding the cost benefit of these instruments: i. a premium called "greemium" of a few basis points, often due to the effects of supply/demand on the market, ii. margin revisions related to the achievement of KPI:

- Access to longer maturities
- Access to a wider range of investors, often with more stable passive buy-and-hold strategies
- Familiarization and capacity building concerning sustainable finance in the broad sense
- A strong signal of a commitment to climate/nature/sustainability investment
- These securities offer longer maturities and target a relatively broad spectrum of investors

Drawbacks:

- A fragmentation of labelling, standardization and regulatory frameworks
- Potentially high management and monitoring costs
- A reputational risk in the event of poor performance
- Insignificant margin revisions with regard to the rate applied to non-investment grade issuers, meaning the majority of DCs

A limited use for projects with an earmarked revenue stream, for example, for a power generation unit. They are therefore less suitable for financing adaptation or conservation projects that have social revenues rather than financial revenues.

2.1.2. Debt-for-climate swaps and debt-for-nature swaps (DCS and DNS)

DCS – debt-for-climate swaps – are part of the broad category of debt-for-nature swaps (DNS), which offer the possibility of raising capital in DCs to address the environmental challenges as a whole and support resilient prosperity. The financial flows generated are equivalent to an earmarked grant combined with a restructured debt instrument. The restructuring may include a local currency swap (reducing the foreign exchange risk), a lower interest rate, an extended maturity, a partial cancellation of the debt, a bond issue, or a combination of all this. It is often tripartite: investor, State, NGO, or a recipient entity of the funds earmarked for nature or the climate.

DCS generally work in the following way: in exchange for the partial cancellation of the public debt, the government of the debtor country undertakes to mobilize the equivalent of the debt cancellation in local currency for climate projects or programs, on terms agreed between the creditors and the debtor country.

20 Green bonds are not indexed to a result.

Certain conditions must be met to access these instruments: the requesting country must be heavily indebted (according to the criteria established by the IMF), it must have exhausted other debt relief instruments that would be more favorable to them (*e.g.*, unconditional "standard" debt relief or cancellation), and it must be able to convince the creditors that it will earmark a portion of the resources budgeted for the repayment of the debt to financing national projects or programs that are part of the fight against climate change in the country.

These debt swaps are usually negotiated in the context of the restructuring of public debt towards official bilateral creditors, such as the members of the Paris Club, but also with private creditors from the country. The first climate and nature swaps did in fact emerge with the latter.[21]

The debt swap mechanism for developing countries was introduced in the 1980s. Chile was one of the first countries to establish an official debt swap program in 1985, but it was Bolivia, in 1987, which concluded one of the first DNS with the organization *Conservation International*. Ecuador and Costa Rica followed in the same year. These first swaps only concerned debt swaps between developing countries and private creditors. In 1990, the Paris Club introduced a debt conversion clause, making bilateral debt eligible for debt swaps. The debt swap instruments were thereby able to start including a combination of public and private support.

The interest in debt swap instruments started to wane in the 2000s, mainly due to the complexity of implementing projects conditional on debt conversion, and the limited level of debt relief that these instruments could provide. At the same time, other programs initiated by international institutions were established, such as the HIPC and MDRI initiatives. However, in recent years, and in particular since the Covid-19 crisis and the resulting substantial increase in global debt, these instruments have returned to the forefront of the international arena. They not only focus on the fight against climate change, but also on nature protection. The case of the Seychelles (2015) and more recently Barbados and Belize (2022), which have conducted debt-for-nature swaps with The Nature Conservancy (TNC, an environmental organization), illustrates the renewed interest in these instruments.

Several international initiatives and platforms have emerged on debt swap issues, or even more generally on financing development objectives, which includes the use of debt swap instruments. The Debt for Climate Adaptation Swap Initiative, launched in 2016 by the Economic Commission for Latin America and the Caribbean (ECLAC), is an example of this.

There are now more than 100 debt swap operations involving about 15 official creditors and a total of about 30 creditors. According to UNDP, in 2017, the total value of debt treated through debt swaps stood at $2.6 billion and had provided approximately $1.2 billion of financing for expenditure related to development or nature. At the same time, the climate grants allocated to developing countries in 2019 stood at $17 billion according to the OECD.

21 WP IMF, 2022: Debt-for-Climate Swaps: Analysis, Design, and Implementation.

The IMF publication concludes that swap instruments are generally not necessarily the most suitable for either climate finance or countries in debt distress. If the main objective is climate finance, it would be necessary to target actions to increase fiscal space and, where applicable, give priority to conditional grants when the targeted countries show limits in terms of additional debt. If the main objective is debt reduction, a restructuring targeting debt relief would be more appropriate. This offers lower transaction costs, more leeway, and less complexity. There are some cautionary notes regarding these instruments:

- DNS and DCS could be justified when the climate action financed contributes to reducing the sovereign credit risk (which is not always the case) and the payments for climate action are more senior compared to the debt repayment
- In terms of reputation and a signal effect towards markets, swap instruments are generally given preference over a gross restructuring: certain creditors may be more willing to provide debt relief if it is linked to climate action
- When the debt is listed, the debt showing signs of distressed debt should be treated as a matter of priority
- In cases where the debt is not viable, a swap should involve amounts that are sufficiently high to restore the viability of the debt and provide a viable alternative compared to a simple restructuring of the debt. The ultimate success of the case of Belize in 2022 needs to be examined to see if these operations can be replicated for small countries and SIDS, with a potentially considerable impact on debt levels. However, it should be recalled that this operation was accompanied by a sophisticated arrangement comprising parametric insurance and a guarantee
- The equal treatment of creditors is also central to DCS and DNS: part of the debt relief generated can implicitly subsidize non-participating creditors, especially when the debt is substantially reduced

2.2. DEBT INSTRUMENTS INDEXED TO RISK

These are debt instruments with clauses related to the predefined and/or parameterized occurrence of a climate shock or disaster in order to free up or provide liquidity. The range of clauses can concern several arrangements: **disbursement, suspension, complete or partial cancellation, reduction**. These instruments are used *ex ante* (precaution) or *ex post* (compensation for the disaster), in support of the stratification of the **"reduction/transfer/retention"** analytical framework for risk management. They are particularly relevant for small countries and SIDS where natural disasters often cause more damage in terms of % of GDP.[22] Some are both financial instruments and policy instruments, in the sense that they initiate a public policy dialogue.

22 Less than 1 in 100 disasters in larger countries cause damage equal to >30% GDP; 1 in 10 disasters in small countries cause damage equal to >30% GDP (article_natural_disaster_clause_v3-pdf.pdf (clearygottlieb.com)).

2.2.1. Debt with suspension clauses

These instruments are particularly appropriate for countries that are vulnerable to acute physical climate risks and disaster risks or SIDS. They make it possible to suspend or defer the debt service in the event of the occurrence of predefined events. In November 2022, ICMA, which plays a regulatory role on bond markets, published a common framework entitled CRDCs (Climate Resilient Debt Clauses), which provides model contract documents (Term Sheets) that include quantifiable and verifiable indicators and predefined thresholds for triggering the suspension of the principal and/or debt servicing. It updates the first framework published in 2014.

These instruments often require collective action clauses (CAC) where bondholders agree from the outset to be bound by the terms of a restructuring, if a specified super-majority of creditors approves the arrangements proposed by the issuer. Finally, this framework applicable to the bond market should converge with the framework for loans, including those provided to Barbados by official donors such as the World Bank.

2.2.2. CAT bonds (catastrophe bonds)

These are instruments where the debt service is cancelled, or sometimes only reduced, in the event of an occurrence of the associated catastrophe. The volume of CAT bonds is constantly rising,[23] with a major share dedicated to the "earthquake" catastrophe, but with an increase in the risks covered, which are at the intersection of the effects of CC or the catastrophe (hurricanes, storms…).

Benefits:

- Reduces budgetary volatility in the event of the occurrence of a catastrophe, going as far as the cancellation of the debt
- Makes it possible to secure a multi-year protection (in contrast to traditional reinsurance which generally covers a period of one year): the maturity of CAT bonds can be up to five years (with an average duration of three years). They thereby provide protection against price volatility on the reinsurance market
- The multi-year terms of most CAT bonds also allow sponsors to spread the fixed costs of bond issues over a period of several years, thereby reducing costs on an annual basis

Drawbacks: a reduced investor base, as only countries with access to capital markets are concerned, and high transaction costs. There is also a mispricing risk in the event of information asymmetry, and the costs are high.

2.2.3. Debt and contingent instruments

This is another instrument dedicated to disaster risk reduction. A contingency loan is a tool devised to be used prior to recurrent disasters, to allow time to strengthen the disaster risk management policies of countries and enable them to increase their disaster resilience. It allows a disbursement to be made in the event of the occurrence of a disaster. This instrument can be complemented by the replenishment of a contingency fund with grant resources for countries in debt distress or on the verge of debt unsustainability.

Benefits:

- Improvement in the financial protection of countries faced with disasters
- Strengthening of the expertise and capacities of local stakeholders, governance, and coordination of the disaster risk reduction policy

Drawbacks:

- Because it is based on the completion of actions prior to the allocation and on a matrix of reforms, a contingency loan requires long appraisal phases
- As it is a debt instrument, it is not suitable for financing irreversible and permanent losses. This is why it is complementary to contingency funds which are in the form of grants

23 IMF - Sovereign Climate Debt Instruments: An Overview of the Green and Catastrophe Bond Markets – 2022.

2.3. CARBON FINANCE

Article 6 of the Paris Agreement provides guidelines for the achievement of the emission reduction targets through voluntary bilateral and multilateral agreements (including Internationally Transferred Mitigation Outcomes under Article 6.2), the creation of an international carbon market, and the recognition of non-market approaches that provide additional forms of assistance targeting "mitigation, adaptation, finance, technology transfer and capacity building". Certain aspects of the implementation framework in Article 6 are still in the process of being clarified and negotiated. In terms of voluntary carbon offset markets – a compensation mechanism ringfenced since the Kyoto Protocol –, they are experiencing strong growth, but with a slowdown observed in 2022, marked by more vigilance on the part of buyers with regard to the reputation risk they are exposed to through the purchase of low-quality credits.

A number of DCs position themselves on these markets with the impression that these markets hold the potential to become a major source of debt-free financing, as is the case with Congo Basin countries (DRC, Gabon). However, vigilance is required over the integrity of these markets and their role in the achievement of carbon neutrality and compliance with the avoid/reduce/offset sequence. This is without mentioning the financial and sometimes social and environmental costs related to their design, and uncertainty over the stability of demand on the markets. Furthermore, based on the commitments of DCs under the Paris Agreement, they are also required to reduce their own future emissions by the same amount of the carbon credits sold today. In this respect, Indonesia, for example, virtually "nationalized" this market by presidential decree in late 2022. Again in 2002, other DCs (Papua New Guinea, Honduras) also issued a moratorium on the issuance of new credits in order to take time to define clear rules. Countries must establish an exhaustive carbon strategy clarifying the economic, commercial and climate benefit of offset markets, without neglecting their links and trade-offs with other carbon markets and mechanisms concerning taxation and cap and trade systems.

2.4. INSURANCE MECHANISMS

Disaster risk insurance does not reduce physical losses following events, but it helps better manage and mitigate their financial and economic costs. While insurance and risk-sharing mechanisms do not replace investment in resilience and adaptation, they remain a major component in risk management and financing, as set out in Article 8 of the Paris Agreement.

However, its use in DCs has been limited due to a number of factors, such as: i. the weakness and lack of weather and climate data and their translation into risk assessments; ii. the low penetration of the domestic insurance market; iii. the weakness of normative frameworks that define the "insurable" universe; iv. the lack of fiscal space to create sovereign mechanisms.

During COP27, the G7 announced the launch of the Global Shield. It is still too early to assess its effectiveness as it has for the moment only been announced. However, on the ground, there are already tried-and-tested insurance mechanisms, such as the regional risk-sharing mechanisms (**see Box 4**), which are particularly suited to SIDS and vulnerable countries with limited fiscal space.

In large countries, the damage caused by natural disasters is localized and therefore only accounts for a relatively small share of the economy. In small countries and SIDS, natural disasters have a covariant risk, as much of their territory could be affected at the same time. If these countries also have scarce budget resources, the trade-off between costs and benefits becomes difficult, despite their higher risk aversion. The calibration of the insurance is often sub-optimal.[24]

Furthermore, the parametric[25] nature of a number of disaster risk insurance mechanisms also exposes countries to a basis risk. It involves the risk of the insurance not being triggered (for example, because the force of the disaster is not measured at the same place as its main impact) and/or the risk of the real losses exceeding the modeled values and the associated payments.

24 Sources: OECD - Recommendation on Disaster Risk Financing Strategies - 2017 and IMF - Natural Disaster Insurance for Sovereigns: Issues, Challenges and Optimality – 2020.
25 Parametric insurance refers to a type of contract that insures against the occurrence of a specific event by paying a fixed amount depending on its scale, in contrast to the scale of the losses in a traditional indemnity policy which offers less visibility.

Box 4 – Regional risk pooling mechanisms

The pooling of risks between countries serves to increase the coverage of the individual insurance of a country, especially when it has limited fiscal space and a high exposure to acute risks. The pool is therefore jointly capitalized with the participation of several countries. The three most emblematic regional mechanisms are: i. the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF), established in 2007 and extended to the Central America region in 2015, (ii) the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), established in 2013, and (iii) the African Risk Capacity launched in 2014.

As the countries that make up these regional risk pooling mechanisms have little fiscal space, the pools need to transfer the risks to reinsurance markets at an additional cost, which limits the overall size of these mechanisms (annual coverage of only $750 million for the three pools). This is despite the participation of the World Bank and OECD donor countries, such as France, in the capitalization of these pools. The parametric nature of the insurance also exposes the countries to the basis risk mentioned above. It is therefore important to increase their size and find financial support (*e.g.*, subsidies) to reduce the overall cost, without neglecting other risk transfer instruments and others based on compensation. Technical assistance can also help limit the basis risk and subscribe the most appropriate mechanism with the right parameters and the right size. Finally, consideration needs to be given to the sustainability of the capital of these mechanisms, faced with the combined effects of CC in the geographical areas concerned.

2.5. CLIMATE FUNDS

Climate funds have existed since the 1990s, but really gained momentum as of 2009, when advanced economies pledged to provide DCs with $100 billion of climate finance per year. Since the early 2000s, globally, at least $43 billion of financing has been pledged for climate funds (80% of which has been actually distributed in the funds). However, only $28 billion has been approved and $11 billion disbursed, including less than $3 billion for Africa.[26] Climate funds may provide concessional resources, but the entire process is lengthy and rather cumbersome, and includes going through accreditation and the development and implementation of projects, not to mention the constraints posed by the limited repayment capacities of certain countries. Finally, the large number of funds, each with their own specific process, holds back the deployment of these resources (**Figure 6**).

Figure 6: The difficulty of accessing climate funds

<table>
<tr><th></th><th>Accreditation</th><th>Project Development</th><th>Capacity</th><th>Macroeconomic Environment</th><th>Climate Data & Knowledge</th></tr>
<tr><td>Countries</td><td>Countries' fiduciary and institutional capabilities are not sufficient for fund standards</td><td>Low capacity to develop project proposals that meet fund's project approval criteria</td><td>Country-specific (for example, limited technical and human capacity to design climate goals, execute projects)</td><td>Examples: lack of fiscal space to borrow, difficulty in mobilizing private capital</td><td>Insufficient climate-related risk (and opportunity) information, insufficient climate-related data and knowledge</td></tr>
<tr><td rowspan="4">Providers</td><td colspan="3">Challenges from multilateral/donor climate funds requiring accreditation</td><td colspan="2">Challenges from intermediaries</td></tr>
<tr><td colspan="3">High minimum standards for access beyond the existing capacity of certain countries</td><td colspan="2">Insufficient risk-inclination for small projects/countries, projects in local currency</td></tr>
<tr><td colspan="3">Lower funding for ex ante resilience measures than disaster aid, constraining countries' ability to reduce vulnerabilities and increase resilience</td><td colspan="2" rowspan="2">Insufficient prioritization of SSA countries associated with smaller projects or smaller countries; high transaction costs; focus of climate finance targets on funding volume</td></tr>
<tr><td colspan="3">Heavily skewed funding toward accredited entities or only international accredited entities</td></tr>
</table>

Source: IMF from Adaptation Fund; Capacity-building Initiative for Transparency, Global Environment Facility, Green Climate Fund, Least Developed Countries.

26 Source: IMF - Climate Change and Select Financial Instruments: An Overview of Opportunities and Challenges for Sub-Saharan Africa – 2022.

3. CONCLUSION

Several countries are currently faced with a situation of fiscal vulnerability, or high and unsustainable debt. Some are already engaged in debt restructuring processes. In addition to the succession of recent crises and rate tightening, many face several challenges and agendas requiring substantial financial resources: climate change, sustainable development, biodiversity loss, and natural disasters (in particular small countries and island States). The latter involve risks, the diversity of which requires recourse to various financial instruments and insurance or contingency mechanisms. Moreover, the unpredictability of certain events (pandemic, war, insecurity…) will further increase the volatility of the budgets and macro-financial balances of these countries. They must therefore manage risks and vulnerabilities that currently exist, can be modelled, or are unpredictable, whilst avoiding adding on new risks through their investment and development plans (*e.g.*, resilient infrastructure with no risk of mal-adaptation). The combination of financing instruments with risk management mechanisms, coupled with enhancement (guarantees, grants, donors, first losses), often provides a relevant solution for these countries, subject to achieving significant volumes and attractive pricing.

It therefore appears necessary to offer these countries a wide range of instruments and mechanisms to address various contexts and situations, while providing flexibility in the debt restructuring frameworks, as "debt" remains the dominant instrument and the most representative of external financing flows. This note has described the underfunding for reducing the "reduction/transfer/retention" segmentation for disaster risk management, which mirrors the underfunding for adaptation in climate finance.

Before deploying the solutions mentioned, it is also necessary to remove a number of barriers in recipient countries, beyond the issues identified, such as governance and regulatory frameworks or institutional capacities. These are often a precondition for effectively implementing and correctly sizing and defining the parameters of the instruments and mechanisms presented:

i. Improve the quality of climate and nature strategies and plans (NDC, LTS, NAP…) with a clear action plan and financing, properly geared to macro-financial and fiscal capacities and constraints,

ii. Increase the reliability of quality data on: the climate, nature and natural disasters, which are essential for the assessment of risks, then for defining the parameters and sizing of the financing solutions presented,

iii. The issue of data also concerns the transparency, monitoring and reporting of debt registers.

Some recommendations also apply to donors, creditors and investors:

i. Bring innovation in the structuring of existing solutions through enhancement mechanisms (guarantees, grants, donors, first losses). There are three objectives: firstly, target the three layers of risk reduction/transfer/retention; secondly, achieve a critical size and have a significant impact for countries or their financial balances; thirdly, ensure there is an attractive pricing that does not add to the debt service burden, especially for the most vulnerable countries,

ii. Systematically apply customized suspension/cancellation/reduction clauses triggered by an event or a public decision set in advance. The trigger clauses should be simplified and the contractual frameworks harmonized and standardized,

iii. Devote concessional or free resources to risk reduction and adaptation for the most vulnerable countries in order to break the vicious circle of the cost of capital risk as described in Figure 3,

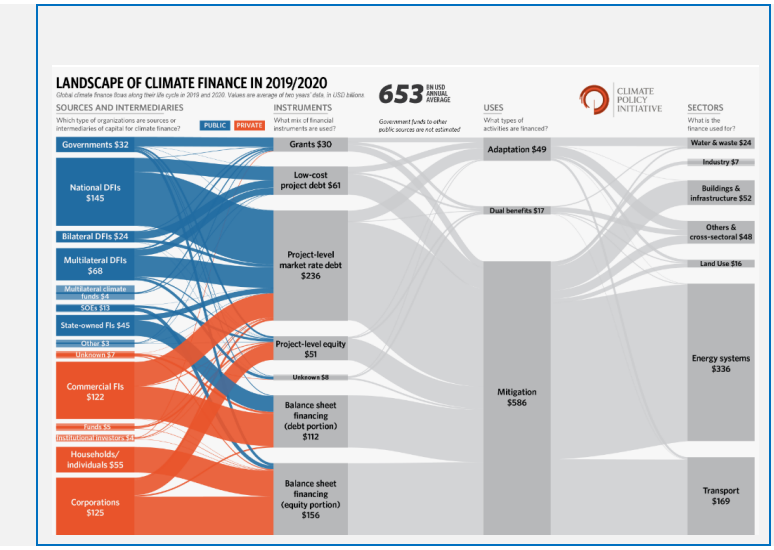
iv. Improve and harmonize debt restructuring frameworks and the use of collective action clauses, with a convergence in the new fragmented array of lenders and creditors (private, official, bilateral, domestic…).

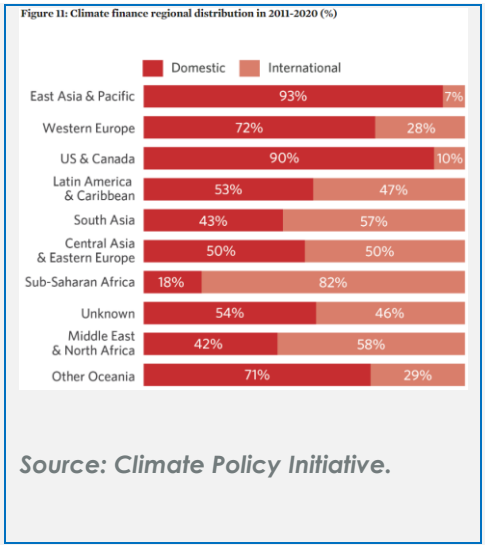
Finally, in a context of geopolitical rebalancing and as complex as the financial engineering deployed may be, it would appear to be difficult to avoid the debate on climate justice, particularly for the most vulnerable countries. It therefore remains to be seen whether the new cycle of initiatives for the reform of Bretton Woods institutions, the framework of Official Development Assistance, and the role of rating agencies will simply be a repetition of history or will bring concrete developments.

APPENDIX

APPENDIX 1: FINANCIAL RESOURCES FOR THE CLIMATE AROUND THE WORLD AND IN DCs

At global level and according to CPI, climate finance was estimated at about $850 billion in 2021, its highest annual level, *i.e.*, about 0.7% of world GDP, with ~50% private and ~50% public channeled to finance energy and transport – largely composed of green bonds, which still account for less than 3% of global bond markets (Prasad *et al.*, 2022). For the majority of geographical areas, this financing is from domestic sources, with the exception of Sub-Saharan Africa where domestic financing only accounts for 18% of total climate finance over the previous decade.



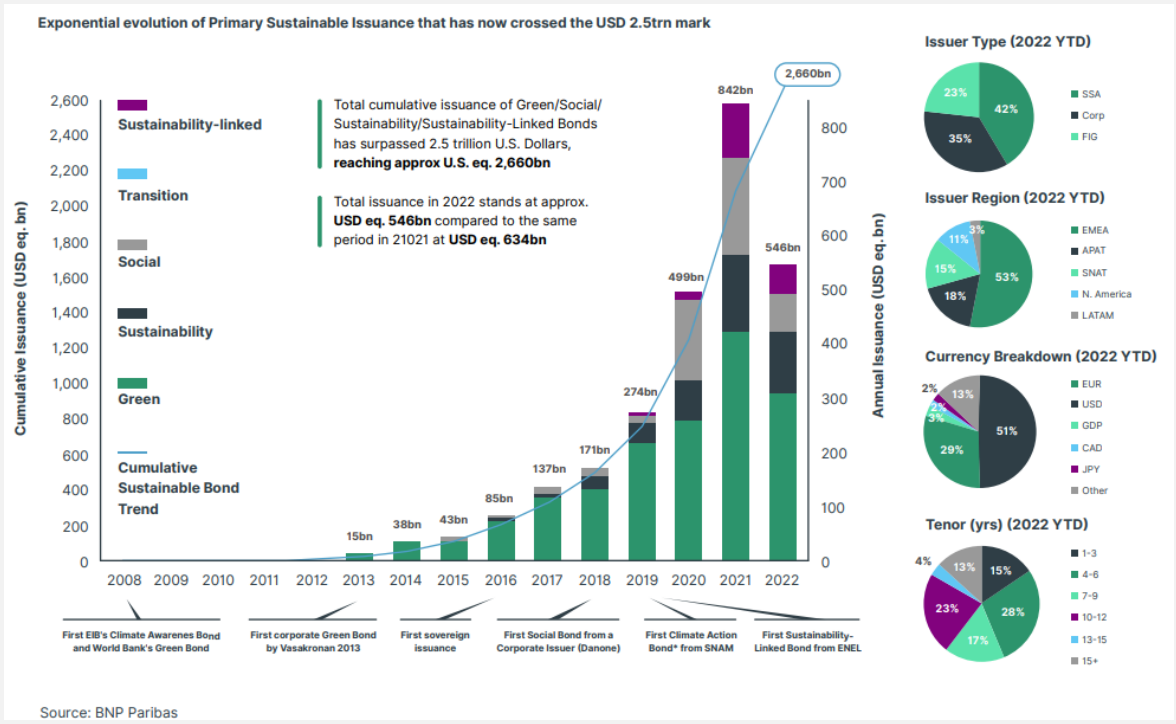


Regarding climate finance in the sense of the Copenhagen Accord (Climate Finance and the USD 100 Billion Goal - OECD, at the 15th Conference of Parties (COP15) of the UNFCCC in Copenhagen in 2009, developed countries committed to a collective goal of mobilizing $100 billion per year by 2020 for climate action in developing countries, in the context of meaningful mitigation actions and transparency on their implementation. The goal was formalized at COP16 in Cancun, and was reiterated at COP21 in Paris and extended until 2025. In accordance with Article 2.1c of the Paris Agreement, since the declarations of 2021, DAC members are required to align ODA flows with net zero trajectories and climate-resilient development, while facilitating access to transition technologies, in particular in the energy sector. Additionality and predictability are criteria associated with climate finance.

Grant instruments should be prioritized for the Least Developed Countries (LDCs) and small island developing States (SIDS), while a combination of grants and highly concessional loans should be considered for countries with a high sovereign debt.

Beyond the low level of the amounts mobilized, two major biases can be seen in climate finance: it is received by certain countries, often major emerging countries, and more for mitigation than adaptation, which partly explains the predominance of debt instruments and the lack of grant resources.

APPENDIX 2: GROWTH IN ESG BOND ISSUANCES



Source: BNP Paribas.

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International Financial Architecture and Financial Engineering for the Climate and Nature

The COP climate and biodiversity negotiations often focus on the issue of the financial resources that are mobilized or need to be mobilized for action and investment related to the climate or biodiversity. The succession of recent crises and global events (Covid-19, war in Ukraine, inflation and rate hikes) has reduced fiscal space and compromised the debt sustainability of a number of countries, while there are still major financing needs for climate-resilient development trajectories. This note will analyze the various situations specific to these countries beyond simply the issue of financial mobilization. Indeed, some countries are more or less concerned by adaptation issues, while others are faced with mitigation and the transition, or biodiversity protection, or all three. And they are all a common component of an SDG 2030 Agenda.

The first part of this note outlines the challenges and possible reforms of the global debt restructuring framework. It also sets out the many proposals for structural reforms to the global framework embodied by the historical institutions that came about through the agreements of Bretton Woods or the OECD's DAC. The second part explores a wide range of financing solutions (financed or non-financed) that can be used, on a case-by-case basis, for the reduction, retention or transfer of environmental and natural risks.

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