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International Finance for Climate Change Adaptation in Response to the Needs of Developing Countries

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Abstract

The considerable inequality in the creation of the carbon stock, as well as in current emissions, has led to recognition of the responsibility of industrialized countries for the negative externalities of climate change. We answer to two questions: What has been the amount of international climate finance allocated to climate change adaptation in recent years? Do resources for adaptation go to the countries that need it most, and those that are poor and vulnerable to the impacts of climate change? Are the instruments used - grants, concessional and non-concessional loans - compatible with the intended objectives? The main conclusion is that per capita resources allocated are modest in vulnerable countries, with the exception of SIDS. The descriptive analysis conducted here raises questions about the effectiveness of finance for adaptation.

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CETTE PUBLICATION A BÉNÉFICIÉ D'UNE AIDE DE L'ÉTAT FRANÇAIS AU TITRE DU PLAN D'INVESTISSEMENT FRANCE 2030 PORTANT LA RÉFÉRENCE ANR-16-IDEX-0001.

Introduction

In climate finance, it is customary to distinguish between mitigating global warming and adapting economies to this warming. Only mitigation contributes to the preservation of a global public good (maintaining temperatures at a level favorable to human life); adaptation is the correction of negative externalities due to rising temperatures, in other words, the inadequacy of mitigation policy. The negative effects of climate change differ from one country to another. Thus, an adaptation policy targets local impact, unlike mitigation policy, which has a global objective.

As the two objectives of climate finance do not address the same concerns, developed and developing countries do not attach the same importance to them. By financing CO2 emission reductions, developed countries are contributing to their own future well-being regardless of where the investments are made, whereas adaptation measures benefit the countries where they are implemented. This is why, at the fifteenth session of the Conference of the Parties in 2009 (COP 25), the countries of the South called for 50% of international climate funds to be devoted to adaptation[1].

The considerable inequality in carbon stock production leads to the recognition of industrialized countries' responsibility for the negative externalities of global warming. The fact that industrialized countries (and now also emerging countries) contribute to financing adaptation in poor countries, which are particularly vulnerable to climate risks, is an affirmation of an essential principle of international justice.

The difficulty in determining what would be a fair amount of funding stems from the difficulty in assessing the amount of damage suffered by each country. It is very difficult, if not impossible, to objectively assess losses and damages by distinguishing between what is due to climate change and what is due to the nature of the climate as it was before. However, it is useful to try to answer a few seemingly simple questions:

- What has been the amount of international flows for climate change adaptation in recent years?

- Is adaptation aid going to the countries that need it most, i.e. poor and vulnerable countries? Are the instruments used, such as grants, concessional and non-concessional loans, compatible with the objective?

The urgency of these questions is heightened by the new context of declining aid in 2024, with further declines expected in 2025 and undoubtedly in the years to come.

[1] Funds earmarked for mitigation and allocated to developing countries are listed under international development finance, even though that is not their primary objective. This leads to a distortion of development flows in favour of middle-income countries, as we have previously analyzed (see Hos T., Guillaumont Jeanneney S. (2025) "The Distorting Effects of Bilateral Climate Change for Mitigation on ODA", FERDI *Working Paper* P352, March). On the other hand, integrating flows for adaptation with flows for development does not raise the same criticism. However, they must be directed to the countries that need them most, which is the subject of this article.

The fact that this analysis has not yet been carried out, at least to our knowledge, is due to the fact that the necessary statistics exist but are scattered across two institutions: on the one hand, the OECD (data on "Climate-related development finance (CRDF), recipient perspective", from the Creditor Reporting System (CRS), for the years 2019-2023),[2] on the other hand, "Total Official Support for Sustainable Development" (TOSSD)[3] and are not homogeneous. The Center for Global Development (CGD), in its article "Does World Bank Climate Adaptation Finance Go to the Most Vulnerable Countries?" by Nancy Lee, Samuel Matthews and James Reid[4] , indirectly testifies to the difficulty of accessing this data, with the authors focusing on World Bank adaptation projects for which they have created their own database[5].

We have therefore built a database covering adaptation flows from both international institutions and bilateral donors. Its main features are as follows. The data are based on donor declarations, which generally indicate the share of funding that can be considered as intended for adaptation (with coefficients between 0 and 100%). They relate to commitments: although disbursements would provide a more accurate estimate of the actual flows received by countries, the data on commitments are more complete, as some international organizations only report their commitments. Finally, these data make it possible to distinguish between three main types of flows: grants, concessional loans and non-concessional loans. The definition of concessionality, applied to the flows of all donors, both bilateral and multilateral, is that of the IMF, which is traditionally applied by international institutions. It is stricter in terms of discount rates and concessionality thresholds than that of the DAC applied to bilateral donors[6] . This method contributes to the homogeneity of the data and allows us to analyze subsidized loans separately from those that follow market conditions.

We first present an overview of the flows granted by the different types of lenders[7]. Then, after analyzing the channels through which the flows are supplied and their sectoral allocation, we examine the main characteristics of the geographical allocation of funds (by continent and by per capita income level of the beneficiary countries). Finally, we address the most important issue, which is the distribution of flows according to countries' physical vulnerability to climate change. The aim is to assess the adequacy of climate finance for adaptation in relation to the relative needs of developing countries.

The main conclusion of the analysis is that climate finance commitments for adaptation are insufficiently targeted at the poorest and most vulnerable countries, due to the excessive share of loans (particularly non-concessional loans) at the expense of grants or aid in general. It raises the question of the particular responsibility of multilateral donors in this regard[8].

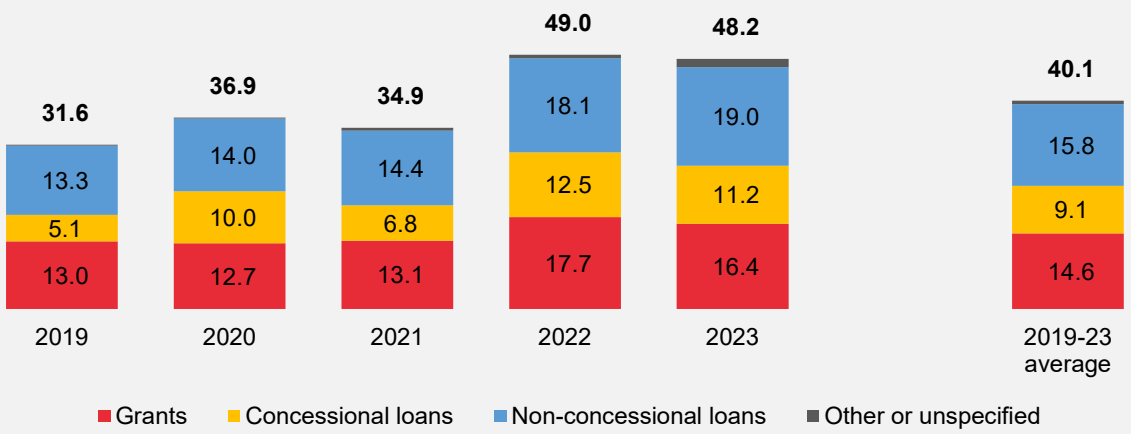
[2] See https://www.oecd.org/en/topics/sub-issues/development-finance-for-climate-and-the-environment.html.
[3] See https://tossd.online/.
[4] CGD *Policy paper*, 355, April 2025.
[5] "With no database available for country-level adaptation finance, we had to construct our own country-level data by aggregating adaptation finance for a given country by project using the World Bank's project database", *cited article* p.6.
[6] The concessionality levels of ODA flows are calculated according to DAC rules using risk-adjusted discount rates (5% / 6% / 7% / 9%) and concessionality thresholds (10% / 25% / 45%). In contrast, IMF rules use a single discount rate (5%) and a single concessionality threshold (35%).
[7] This database and the accompanying methodological document are available on the FERDI website.
[8] On the FERDI'website, the report Hos T., Guillaumont Jeanneney S., Pugnet C. (2026) "Climate finance for adaptation" provides a more detailed analysis of grants, concessional loans and non-concessional loans, as well as methodological considerations relative to the data base.

1. Amounts and main donors

During the five-year period covering 2019-2023, adaptation finance averaged $40.1 billion per year, of which aid (grants and concessional loans) accounted for $23.7 billion, or 59.1% of total adaptation resources. Non-concessional loans amounted to $15.8 billion. A remaining average of $0.6 billion consists of other instruments, such as equity investments and loans whose concessionality is unknown.

The trends in the three categories of flows differed significantly. Grants, which averaged $14.6 billion per year, stagnated in the first three years and then rose sharply in 2022 to $17.7 billion (+35%), but fell in 2023 to $16.4 billion (-7%). Concessional loans averaged only $9.1 billion per year. They were very unstable from one year to the next, ranging from $5.1 billion to $12.5 billion. As with grants, there was a significant decline in 2023 compared to 2022 (-10%)[9]. Non concessional loans, on the other hand, showed a steady upward trend (see Figure 1).

Figure 1: Volume of climate adaptation finance by finance type in 2019-23, USD billion, 2023 prices



Source: TOSSD and CRS CRDF.

The main donors, both bilateral and multilateral, vary depending on the type of flow.

The main bilateral grant providers are Germany, the United States and the Netherlands, while the bilateral donors of concessional loans are Japan and France, joined by Germany for non- concessional loans, with the United States having little presence in the latter area.

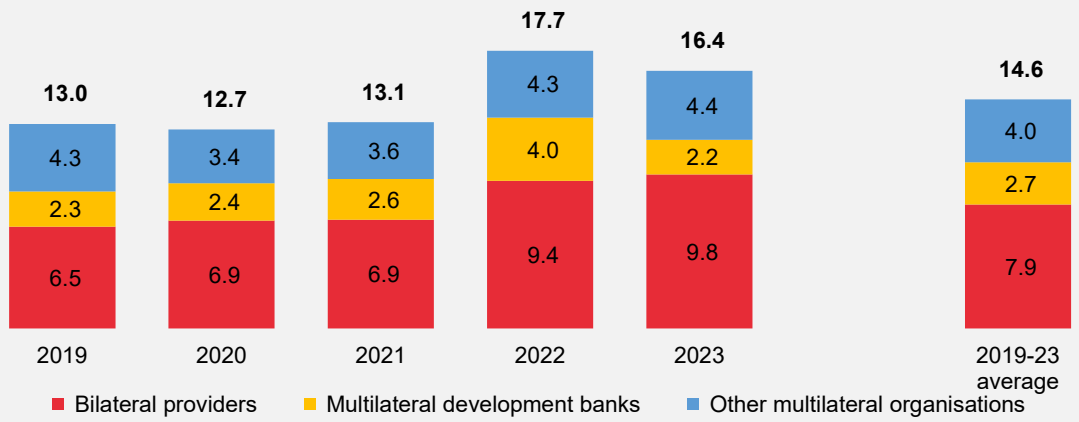
The main multilateral providers are the European Commission and the International Development Association (IDA) of the World Bank Group, which together have provided three-quarters of multilateral grants. Multilateral environmental funds, including the Green Climate

[9] By way of comparison, mitigation aid (official development assistance – ODA – and multilateral concessional outflows) in 2022 as of the same order of magnitude as concessional adaptation finance (just over $35.4 billion). (See Hos T., Guillaumont Jeanneney S., 2025, *op. cit.).* Non-concessional loans are the reason why lending for mitigation is much higher than for adaptation.

Fund (GCF), the Global Environment Facility (GEF), the Climate Change Adaptation Fund (CCAF) and the Climate Investment Fund (CIF), have committed a total of around 19% of multilateral grants.

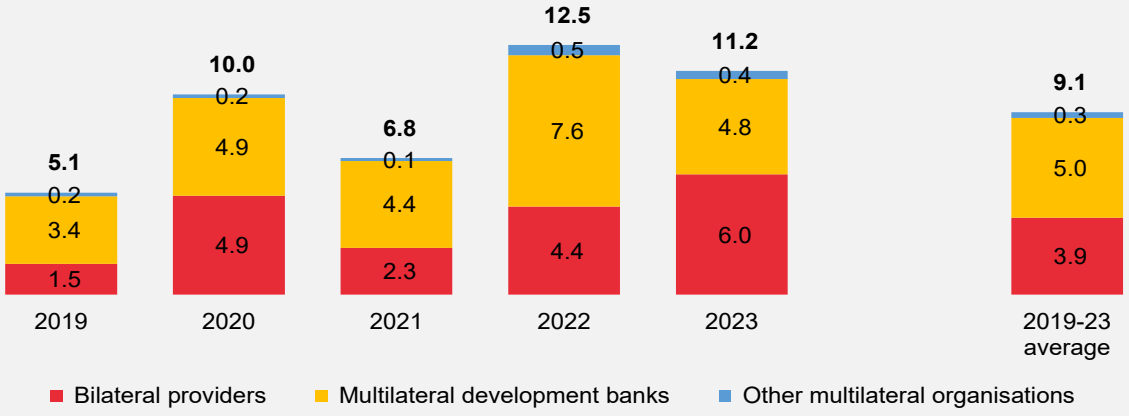
It should be noted that Team Europe[10], which has little presence in the lending market, accounted for 7.2 billion per year in grants, or half of the total. Donor commitments show a high degree of concentration, with ten donors committing 78% of total grants, the five main bilateral donors committing 64% of bilateral donations, and the five multilateral donors committing 92% of multilateral donations.

Figure 2: Volume of grants for adaptation in 2019-23, USD billion, 2023 prices



Source TOSSD and CRS CRDF

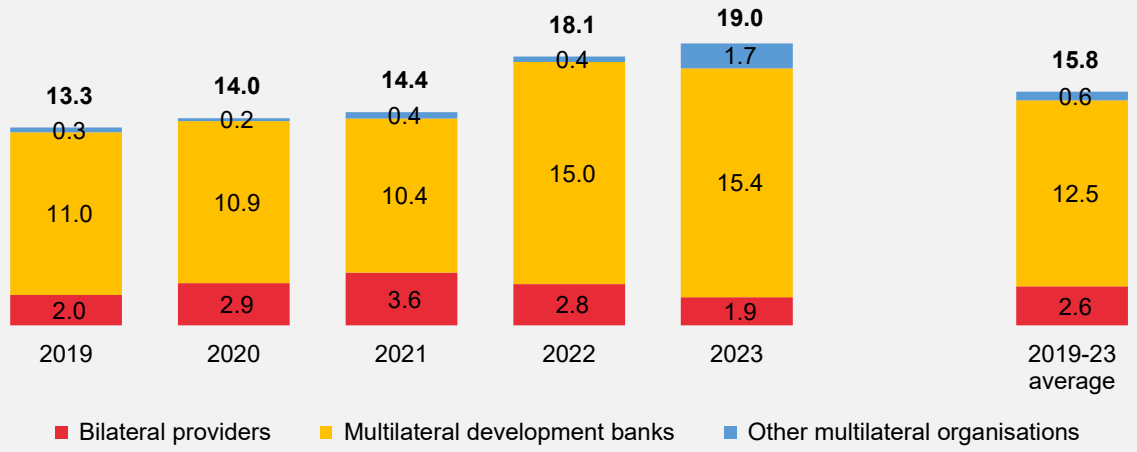
Figure 3: Volume of concessional loans for adaptation in 2019-23, USD billion, 2023 prices



Source: idem

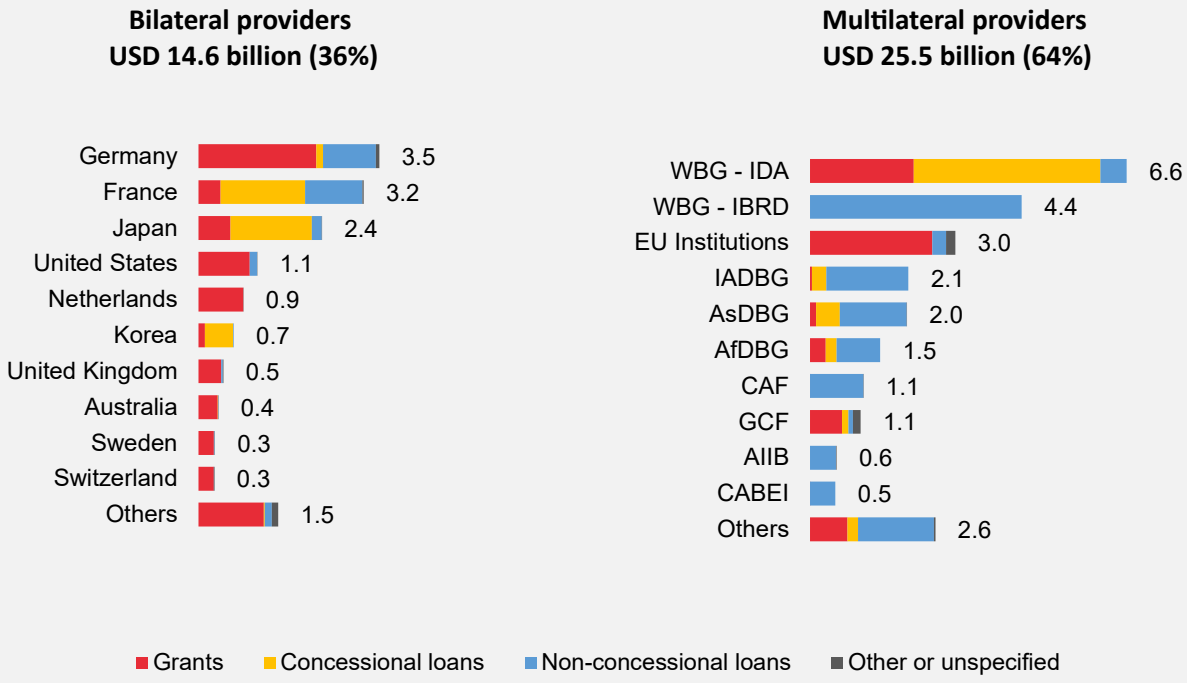
[10] Team Europe comprises the Member States of the European Union, the institutions of the European Union (in particular the European Commission and the European Investment Bank) and the European Bank for Reconstruction and Development (EBRD).

Figure 4: Volume of non-concessional loans for adaptation in 2019-23, USD billion, 2023 prices



Source: idem

Figure 5: Volume of climate adaptation finance by provider and finance type, 2019-23 average, USD billion, 2023 prices



Source: TOSSD and CRS CRDF

There is also a high concentration of loans, given the weight of the World Bank (43% for concessional loans and 32% for non-concessional loans). Multilateral institutions supply the majority of concessional loans, due to the weight of the IDA (40% of the total). Japan and France dominate bilateral lending (with one-third of concessional loans). As the majority of non-concessional loans are granted by multilateral institutions, multilateral development banks dominate this segment (82% of these loans). These are mainly the World Bank (IBRD),

followed by regional development banks, primarily the Inter-American Development Bank (IDB) and the Asian Development Bank (ADB), the Latin American Development Bank (CAF) and the African Development Bank (AfDB). The IMF's Resilience and Sustainability Facility (RST) has been the largest non-concessional lender over the past five years, followed by the International Fund for Agricultural Development (IFAD) and the Green Climate Fund (GCF)[11]. Bilateral lenders provided only $2.2 billion in non-concessional loans, representing 14% of the annual average. These loans were mainly granted by Germany and France.

Summary

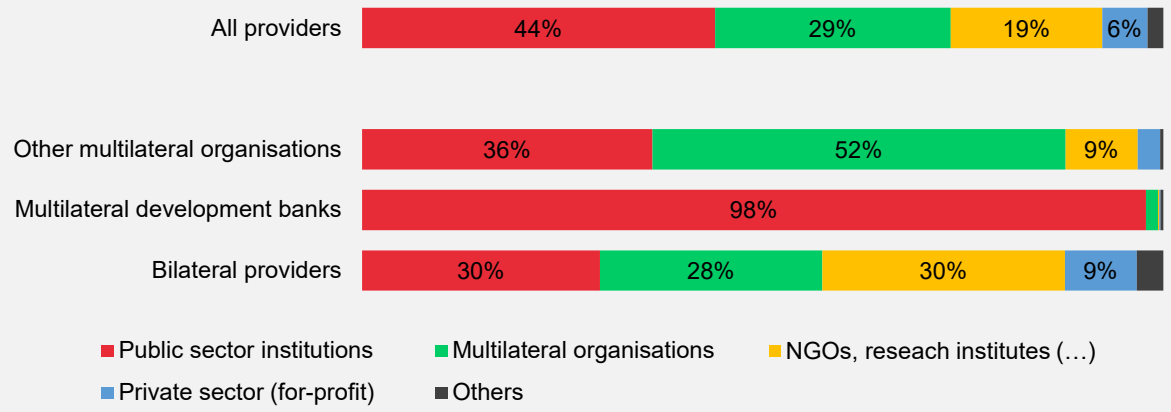
International financing for adaptation mainly takes the form of loans (62%), notably non-concessional ones. This feature is due in particular to the weight of multilateral organizations, which are responsible for 64% of flows. The decline in the sum of grants and concessional loans (assimilated to development aid) which began in 2023, unlike non-concessional loans, is worrying. Indeed, adaptation aid is necessary for the poorest countries. However, although statistics are not yet available, it is likely that this decline will have intensified in 2024 and 2025.

2. Delivery channels

The delivery channels for resource flows relate to the entities responsible for implementing the activity supported by the provider. These entities are normally linked to the provider by a contract or other agreement. An important distinction is made between governments and other recipients, such as non-governmental organizations (NGOs), multilateral organizations or private sector institutions, as this reflects the relative weight of these flows in public policy. The main channel for delivering adaptation flows is effectively through national governments, with the exception of bilateral grants, which favor multilateral institutions (non-core resources) and NGOs. Thus, only half of the grants (6.4 billion) are provided to the governments of recipient countries, mainly from multilateral sources (4.1 billion). One-fifth is committed through non-core resources from multilateral institutions such as trust funds, programs and projects with specific objectives.

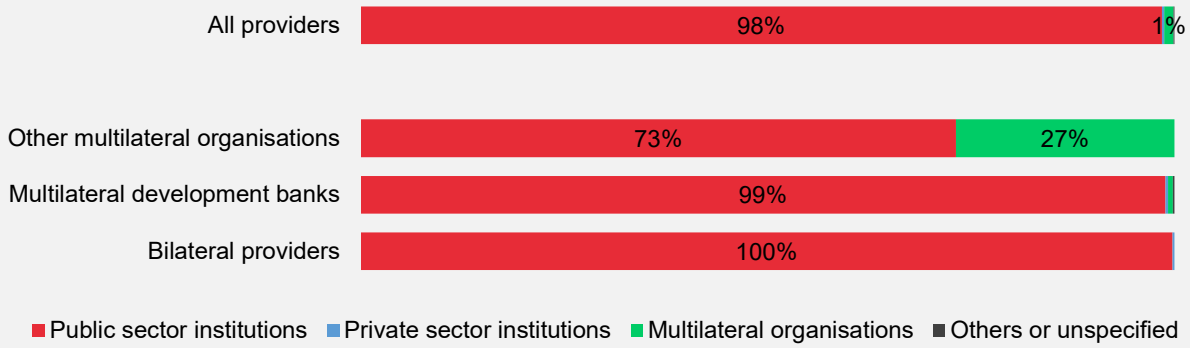
[11] The IMF's RST only became operational in 2022. The amounts representing this institution are therefore based on an average for 2022-2023.

Figure 6: Main channels of delivery of grants for adaptation, 2019-23 average, USD billion, 2023 prices



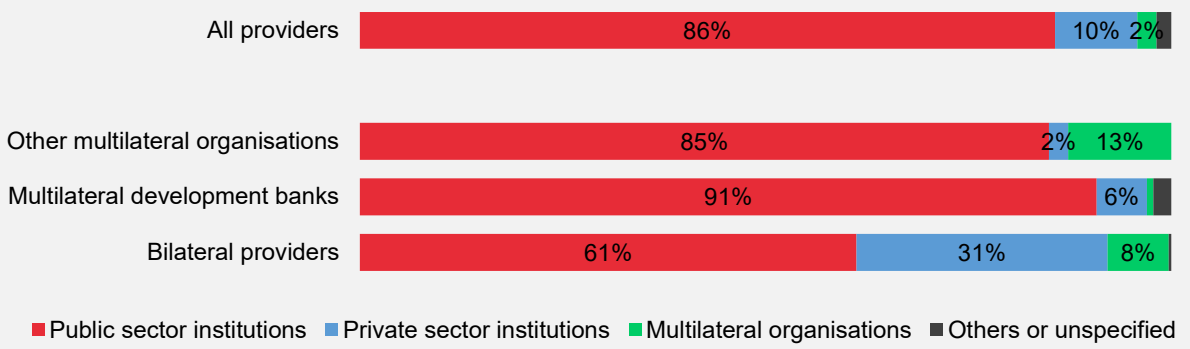
Source: TOSSD and CRS CRDF.

Figure 7: Main channels of delivery of concessional loans for adaptation, 2019-23 average, USD billion, 2023 prices



Source: TOSSD and CRS CRDF.

Figure 8: Main channels of delivery of non-concessional loans for adaptation, 2019-23 average, USD billion, 2023 prices



Source: TOSSD and CRS CRDF.

Summary

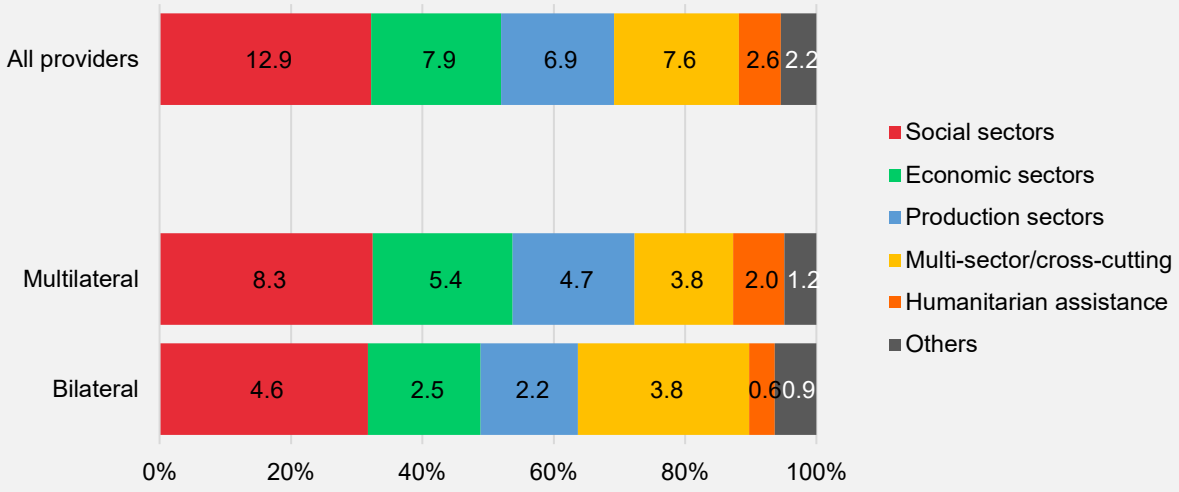
The governments of recipient countries are the main channel for adaptation flows, apart from bilateral grants, which take various routes. International finance for adaptation is therefore an essential component of developing countries' policies to address the often-dramatic consequences of global warming. It is therefore difficult to imagine that the reduction in aid will have no consequences on the policies of the countries receiving aid in the face of global warming.

3. Sectoral allocations

Sectoral allocations are classified into four categories. Social sectors cover water supply, sanitation, support for civil society and the education, health and housing sectors. Economic sectors mainly relate to energy, transport and communication infrastructure, banking and services. Production sectors mainly concern agricultural, industrial and fisheries development; and multisectoral or cross-cutting activities concern general environmental protection and natural disaster risk reduction.

Sectoral allocations vary little depending on the type of flow or instrument. For all of them, social sectors predominate (between 30 and 37% of flows), with a focus on water supply and sanitation, while in the production sectors, agriculture is given significant weight, and in the economic sectors, transport. Multilateral organizations other than multilateral banks stand out with non-concessional loans granted as budget support.

Figure 9: Sectoral distribution of climate adaptation finance, 2019-23 average, USD billion, 2023 prices



Source: TOSSD and CRS CRDF.

Summary

Sectoral allocations of flows, due to their broad scope of intervention, reveal their full importance for the climate change adaptation policy of developing countries.

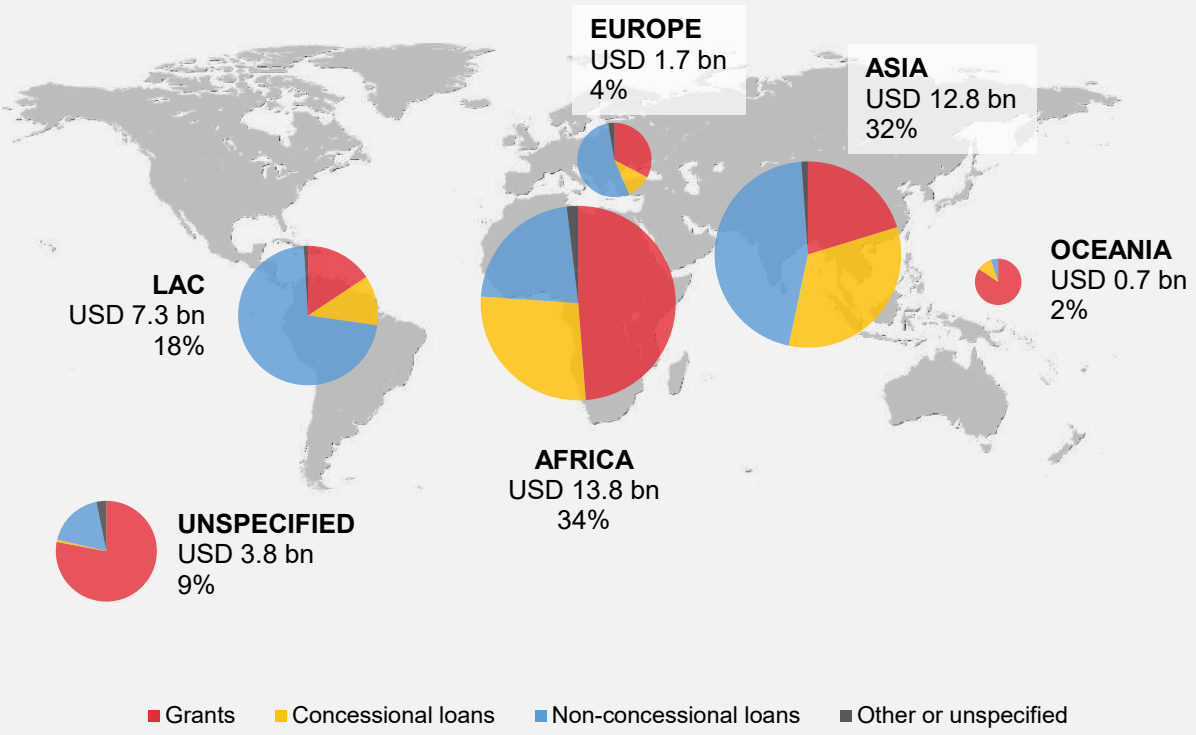
We now turn to the characteristics of recipient countries, which, unlike the channels through which flows are provided and the sectors to which they are allocated, vary greatly depending on the nature of the flows.

4. Geographical allocations and allocations based on per capita income of recipient countries

1.1 Allocations between different continents

The geographical distribution of adaptation flows differs significantly depending on the nature of the flows. Grant commitments are directed overwhelmingly towards Africa (46%) and, to a lesser extent, Asia (18%). On the other hand, Asia is predominant for concessional loans (46%) and non-concessional loans (37%). Latin America appears mainly in the non-concessional loan segment (33%), while Oceania receives mainly grants (4% of these). This distribution by continent reflects the demographic weight, per capita income level and development handicaps of the recipient countries. Africa's dominance in terms of donations is justified by the continent's rapid population growth coupled with a low level of development.

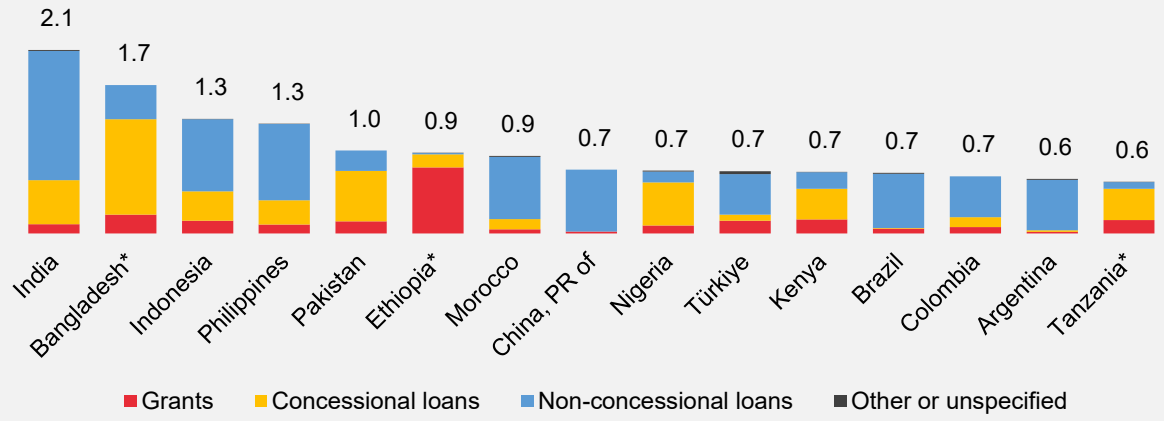
Figure 10: Regional allocation of climate adaptation finance by type of finance, 2019-23 average, USD billion, 2023 price



Source: TOSSD and CRS CRDF.
Note: LAC stands for Latin America and the Caribbean.

When considering countries individually and all flows combined, Asian countries were the main beneficiaries in 2019- 2023 (Figure 11). India was allocated USD 2.1 billion, followed by Bangladesh, Indonesia, the Philippines and Pakistan, each receiving more than USD 1 billion per year. Among the top 15 recipients, only three were least developed countries (LDCs), four were sub-Saharan African countries, and only one was a low-income country (Ethiopia).

Figure 11: Top 15 recipients of climate adaptation finance by type of finance, 2019-23 average, USD billion, 2023 prices

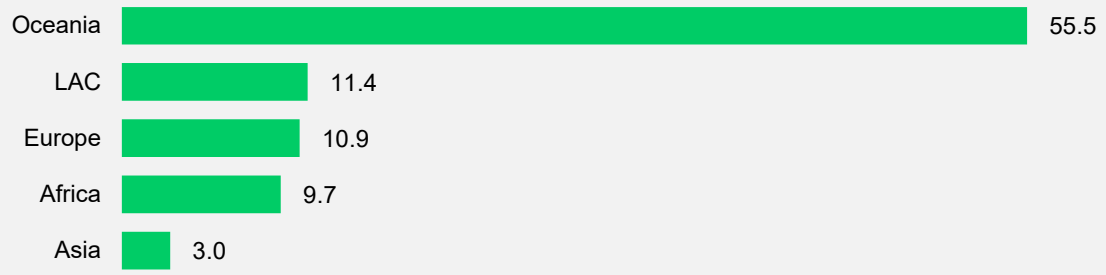


Source: TOSSD and CRS CRDF
Recipients with an asterisk (*) are classified as Least Developed Countries (LDCs).

The picture is quite different when considering flows per capita. In this respect, Oceania received the highest per capita flows during the period 2019-2023 (USD 55.5 per year on average), followed far behind by Latin America, Europe and Africa (around $10). Developing countries in Asia received an average of only $3. If India and China had not been included, the amount would have been even lower. Per capita flows thus seem to reveal a highly concentrated allocation pattern, which favors small, highly vulnerable regions but results in relatively low per capita support for densely populated areas.

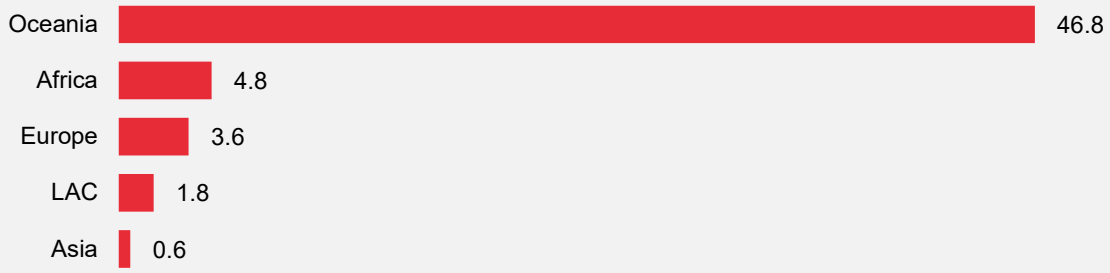
Indeed, small island developing states (SIDS) with populations of less than 10 million receive the highest per capita flows, with 27 SIDS among the 30 most favored countries. They receive mainly grants. The regional ranking remains broadly consistent across instruments, but the composition differs significantly: Oceania's dominance is driven mainly by grants, while Latin America relies more heavily on non- concessional loans. Beyond the SIDS, the most favored countries per capita are Costa Rica, Bhutan and Djibouti. Ten of the fifteen main beneficiaries receive mainly non-concessional loans, with grants and concessional loans playing an important role only for Bhutan and Djibouti, both of which are LDCs.

Figure 12: Per-capita regional allocation of climate adaptation finance, 2019-23 average, USD, 2023 prices



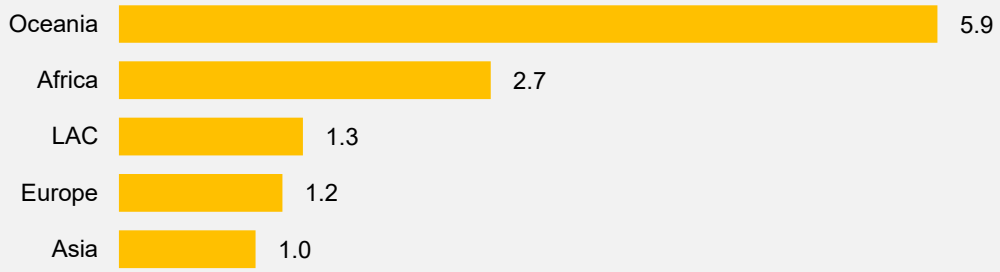
Source: TOSSD and CRS CRDF.
Note: LAC stands for Latin America and the Caribbean. The amounts shown in this graph are calculated as the quotient of the total funding allocated to adaptation in each region (allocated by country and by region) and the eligible population of the countries belonging to those regions.

Figure 13: Per-capita regional allocation of grants for adaptation, 2019-23 average, USD, 2023 prices



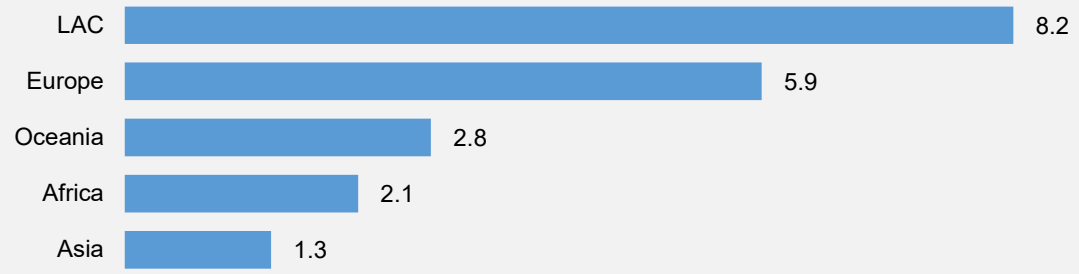
Source: TOSSD and CRS CRDF.

Figure 14: Per-capita regional allocation of concessional loans for adaptation, 2019-23 average, USD, 2023 prices



Source: TOSSD and CRS CRDF.

Figure 15: Per-capita regional allocation of non-concessional loans for adaptation, 2019-23 average, USD, 2023 prices



Source: TOSSD and CRS CRDF

Although Africa ranks only fourth in terms of total per capita funding for adaptation (and also in terms of non-concessional loans), it ranks second in terms of per capita allocation of grants and concessional loans.

1.2 Allocations based on per capita income.

Based on the World Bank classification, we distinguish here between three groups of countries: low-income countries (LICs), lower-middle-income countries (LMICs), upper-middle-income countries (UMICs) and high-income countries (HICs)[12] . We also refer to the three categories of countries traditionally defined by the international community (notably by the United Nations): least developed countries (LDCs), small island developing states (SIDS) and landlocked developing countries (LLDCs). According to the following figures, we note that:

- Grants are mainly intended for low-income countries, almost exclusively LDCs (51% over the period 2019-2023), but to a still significant extent they are allocated to lower middle-income countries (35%) and upper middle-income countries (15%).
- Concessional loans are heavily concentrated in lower-middle-income countries (73%), while non-concessional loans are divided between the two categories of middle- income countries (49% for upper-middle-income countries (UMICs) and 46% for lower- middle-income countries (LICIs). Almost half (44%) of concessional loans were allocated to LDCs, compared with 10% in the case of non-concessional loans.

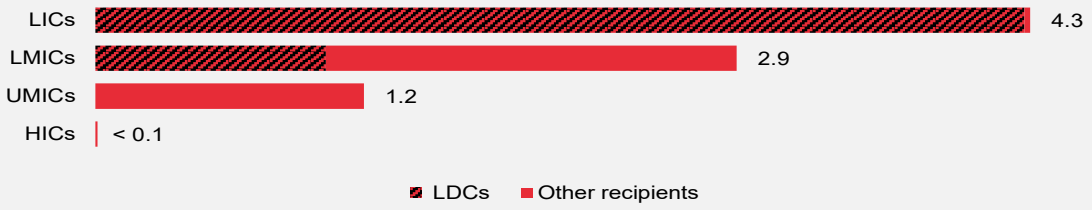
Overall, these figures reveal a financial gradient in the allocation of adaptation funding: the lower the income level, the greater the dependence on grants appears to be; the higher the income level, the more adaptation funding appears to take the form of debt instruments.

If we consider the sum of grants and concessional loans (which can be equated with international adaptation assistance), we see that this assistance goes mainly to middle-income countries,

[12] In 2023, PFR per capita income ≤ $1,135, PRITI $1,136-4,465, PRITS $4,446-13,845, PRE ≥ $13,846.

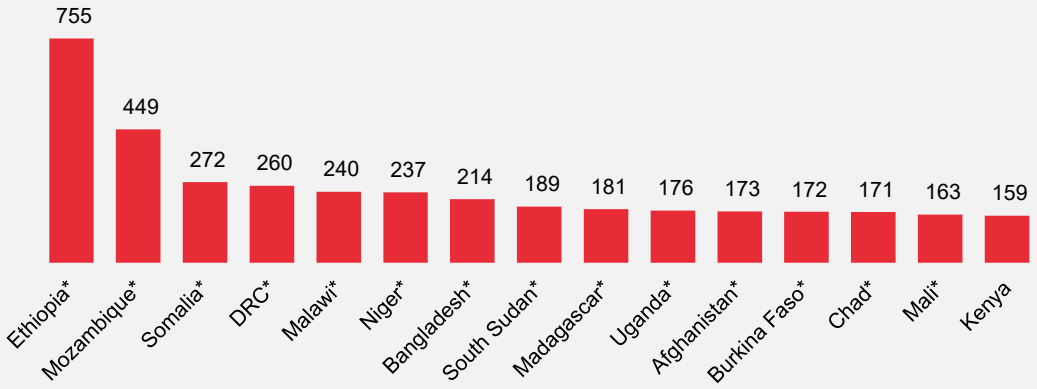
amounting to $11.7 billion. Low-income countries received only $5.6 billion in assistance.

Figure 16: Grants for adaptation by income group, 2019-23 average, USD billion, 2023 prices



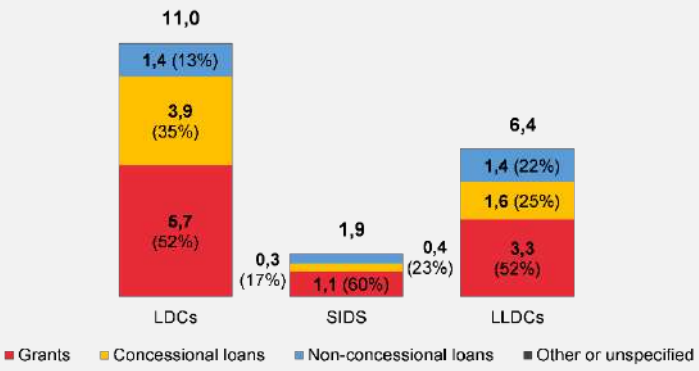
Source: TOSSD and CRS CRDF.
Note: LICs stand for low-income countries, LMICs for lower-middle income countries, UMICs for middle-income countries and HICs for high- income countries.

Figure 17: Top 20 recipients of grants for adaptation, 2019-23 average, USD million, 2023 prices



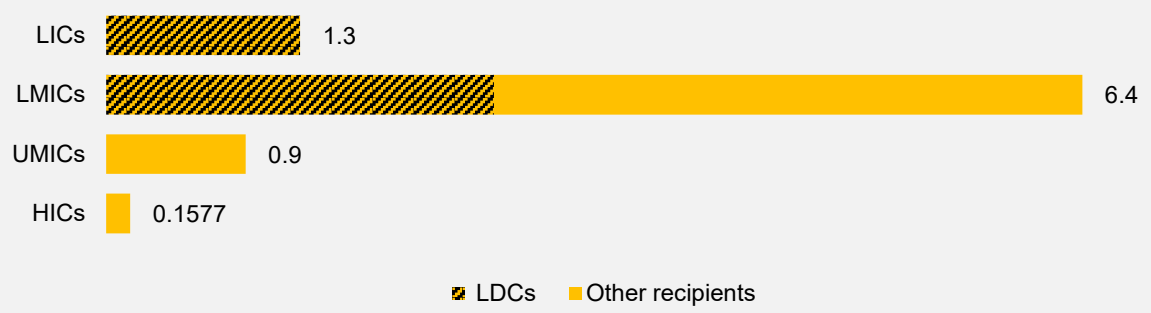
Source: TOSSD and CRS CRDF.
Note: DRC stands for Democratic Republic of the Congo. Recipients with an asterisk (*) are classified as Least Developed Countries (LDCs).

Figure 18. Adaptation finance for LDCs, SIDS and LICs by type of finance, annual average 2019-2023, 2023 prices



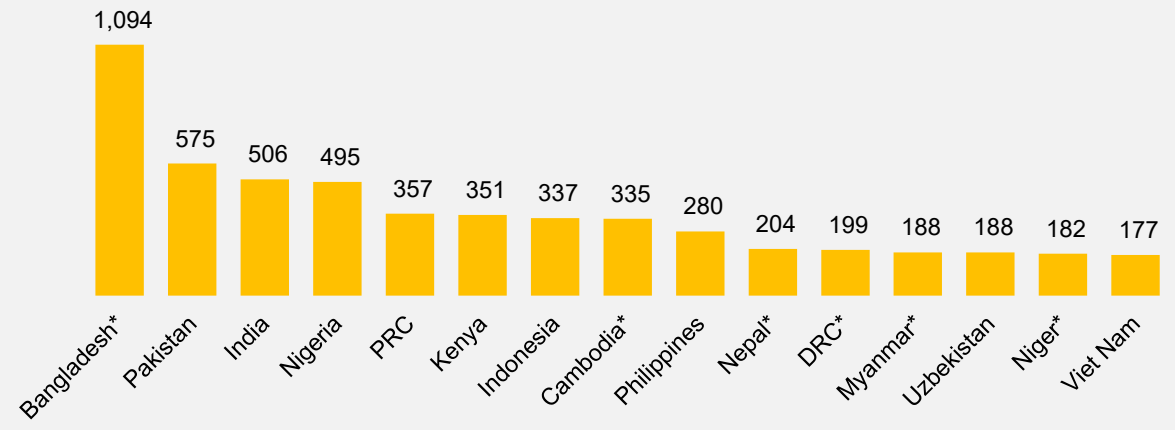
Source: TOSSD and CRS CRDF.

Figure 19: Concessional loans for adaptation by income group, 2019-23 average, USD billion, 2023 prices



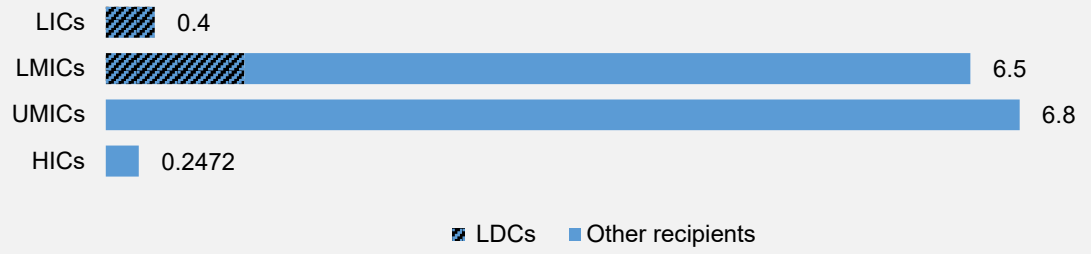
Source: TOSSD and CRS CRDF.
Note: LICs stand for low-income countries, LMICs for lower-middle income countries, UMICs for middle-income countries and HICs for high-income countries.

Figure 20: Top 20 recipients of concessional loans for adaptation, 2019-23 average, USD million, 2023 prices



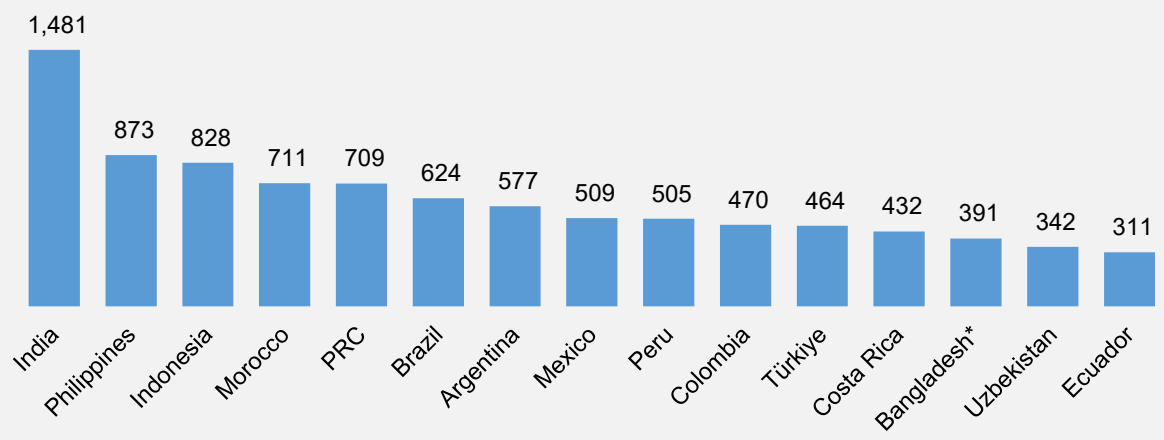
Source: Creditor Reporting System (CRS), Total Official Support for Sustainable Development (TOSSD).
Note: DRC stands for Democratic Republic of the Congo. Recipients with an asterisk (*) are classified as Least Developed Countries (LDCs).

Figure 21: Non concessional loans for adaptation by income group, 2019-23 average, USD billion, 2023 prices



Source: TOSSD and CRS CRDF.
Note: LICs stand for low-income countries, LMICs for lower-middle income countries, UMICs for middle-income countries and HICs for high-income countries.

Figure 22: Top 20 recipients of non-concessional loans for adaptation, 2019-23 average, USD million, 2023 prices



Source: Creditor Reporting System (CRS), Total Official Support for Sustainable Development (TOSSD).
Note: PRC stands for People's Republic of China. Recipients with an asterisk (*) are classified as Least Developed Countries (LDCs).

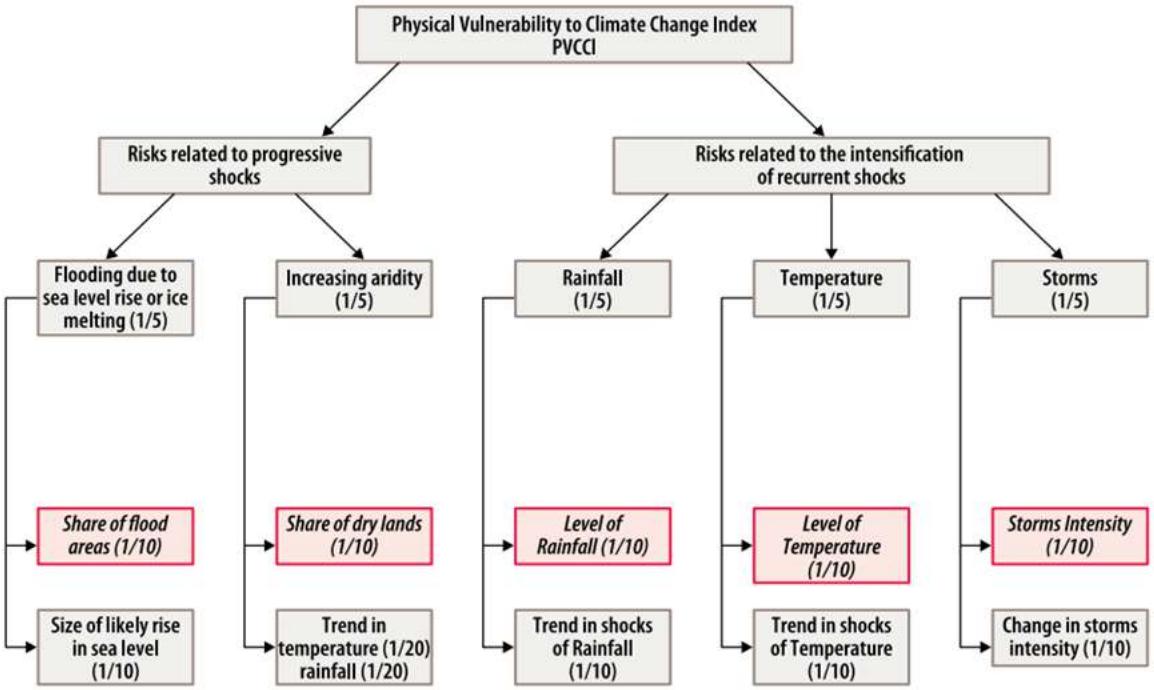
Summary

It follows from the above description that low-income countries, which are generally too indebted and too poor to borrow, receive only a relatively small share of adaptation flows: an average annual flow over the period 2019-2023 of $6 billion out of a total of $40.1 billion, or only 15%. However, most of the funding for low-income countries took the form of grants, unlike middle-income countries, where loans played a much more important role.

5. Allocations based on recipient countries' vulnerability to climate change

Combined with per capita income, vulnerability to climate change is expected to be a key factor in the allocation of adaptation funds. Vulnerability to climate change represents the increased risk to populations of suffering damage or harm due to exposure to natural shocks such as flash floods, exacerbated by rising temperatures and changing rainfall patterns. These events not only threaten the safety of populations and infrastructure, but also jeopardize local ecosystems, which are essential for climate regulation and the provision of essential ecosystem services. Their complex and often cumulative impacts make them particularly difficult to manage and mitigate effectively in the long term.

Figure 23: Structure of the Physical Vulnerability to Climate Change



Source: Feindouno S., Guillaumont P. Simonet C. (2020) "The Physical Vulnerability to Climate Change Index: An Index to Be Used for International Policy", Ecological Economics, vol. 176, October 2020.
Note: The boxes corresponding to the two last rows of the graph respectively refer to exposure components (grayed-out, in italics) and to size of the shock components.

To verify this, we use FERDI's PVCCI indicator, which measures the physical vulnerability to climate change of different countries around the world. This indicator has two characteristics that make it particularly suitable for our study: it is universal (calculated for all countries in the world) and, as it is based on the physical characteristics of countries, it is independent of current national policies that could modify its adverse consequences in one way or another. It is a dynamic indicator, forward-looking although based on past data, constructed on the basis of a distinction between two types of risks due to climate change:

- Risks linked to gradual shocks, such as sea level rise (flood risk), rising temperatures or decreasing rainfall (desertification risk).
- Risks linked to the intensification of recurring shocks, whether rainfall shocks, temperature shocks or cyclones.

For each of these types of shock, the physical vulnerability index to climate change is based on a distinction between the magnitude of the shocks and exposure or sensitivity to the shocks. Since the sources of vulnerability are heterogeneous and each country's vulnerability is specific, the indices corresponding to the various types of shocks are aggregated using a quadratic mean, which gives the most weight to the components that reflect the greatest vulnerability.

Table 1: Groups of recipients according to their physical vulnerability to climate change (PVCCI)

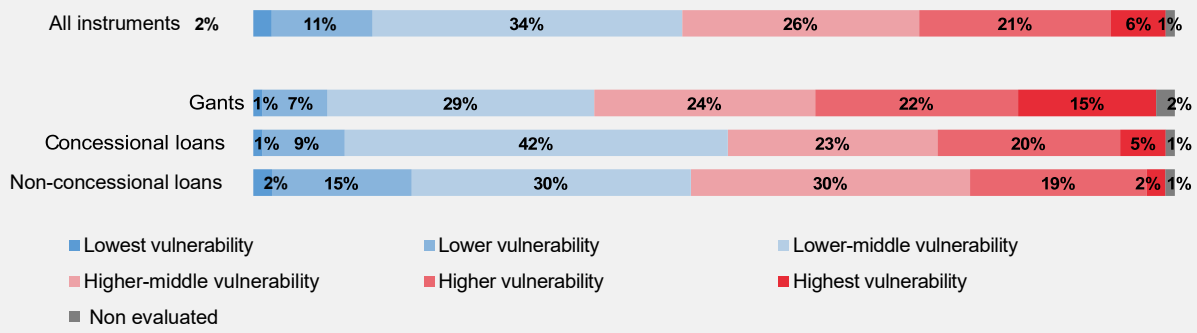
Reference PVCII score:	Highest vulnerability 65	Higher vulnerability 60	Higher-middle vulnerability 55	Lower-middle vulnerability 50	Lower vulnerability 45	Lowest vulnerability 40	Not assessed NA
	Chad	Afghanistan	Antigua and Barbuda	Angola	Armenia	Albania	Cook Islands
	Cuba	Algeria	Argentina	Azerbaijan	Belarus	Bhutan	Dominica
	Djibouti	Botswana	Belize	Bangladesh	Colombia	Bosnia and Herzegovina	Guyana
	Eritrea	Burkina Faso	Cape Verde	Benin	Côte d'Ivoire	Georgia	Kosovo
	Iraq	Egypt	China	Bolivia	Ecuador	Malaysia	Montserrat
	Jamaica	Fiji	Comoros	Brazil	Indonesia	Montenegro	Nauru
	Kiribati	Grenada	Ethiopia	Burundi	Laos		Niue
	Libya	Iran	Haiti	Cambodia	Liberia		North Macedonia
	Maldives	Jordan	India	Cameroon	North Korea		Panama
	Mali	Kazakhstan	Kyrgyzstan	Central African Republic	Papua New Guinea		St. Helena
	Marshall Islands	Kenya	Lebanon	Chile	São Tomé and Príncipe		Tokelau
	Mauritania	Madagascar	Micronesia	Congo	Serbia		Wallis and Futuna
	Mauritius	Mexico	Moldova	Congo, DR of	Suriname		West Bank and Gaza Strip
	Namibia	Mongolia	Mozambique	Costa Rica	Ukraine		
	Niger	Morocco	Myanmar	Dominican Republic	Uruguay		
	Somalia	Pakistan	Nigeria	El Salvador			
	Sudan	Senegal	Palau	Equatorial Guinea			
	Tuvalu	South Africa	Philippines	Eswatini			
		South Sudan	Samoa	Gabon			
		Syria	Seychelles	Ghana			
		The Gambia	Solomon Islands	Guatemala			
		Timor-Leste	St. Kitts and Nevis	Guinea			
		Tonga	St. Vincent and the Grenadines	Guinea-Bissau			
		Tunisia	Uganda	Honduras			
		Turkmenistan	Uzbekistan	Lesotho			
		Vanuatu		Malawi			
		Yemen		Nepal			
		Zimbabwe		Nicaragua			
				Paraguay			
				Peru			
				Rwanda			
				Sierra Leone			
				Sri Lanka			
				St. Lucia			
				Tajikistan			
				Tanzania			
				Thailand			
				Togo			
				Turkey			
				Venezuela			
				Vietnam			
				Zambia			

In the following figures, the most vulnerable countries (74 recipients with an indicator above the median) are separated from the least vulnerable (66 recipients with an indicator below the median). Within each of these two groups of countries, three levels of intensity are distinguished in order to isolate the extremes and the countries whose vulnerability is close to the median for all countries. (See Figure 24 for the classification of different countries). Non-assessed recipients include territories (often SIDS and the West Bank and Gaza Strip) and a handful of countries for which data to estimate vulnerability are unavailable.

First, let us consider all flows intended for climate change adaptation. Figure 24 shows that just over half of the funds go to relatively vulnerable countries (the last three categories in red). The most vulnerable countries receive only 6% of total funding (half of which is allocated to Mali, Niger, Chad and Somalia). The least vulnerable countries receive 2% of funding and

countries with low vulnerability (category 2) receive 11%. It can be seen that, on average, grants have been allocated more than loans to vulnerable countries (in red). We will see later that this distribution changes little when the geographical dimension is taken into account based on flows relative to population.

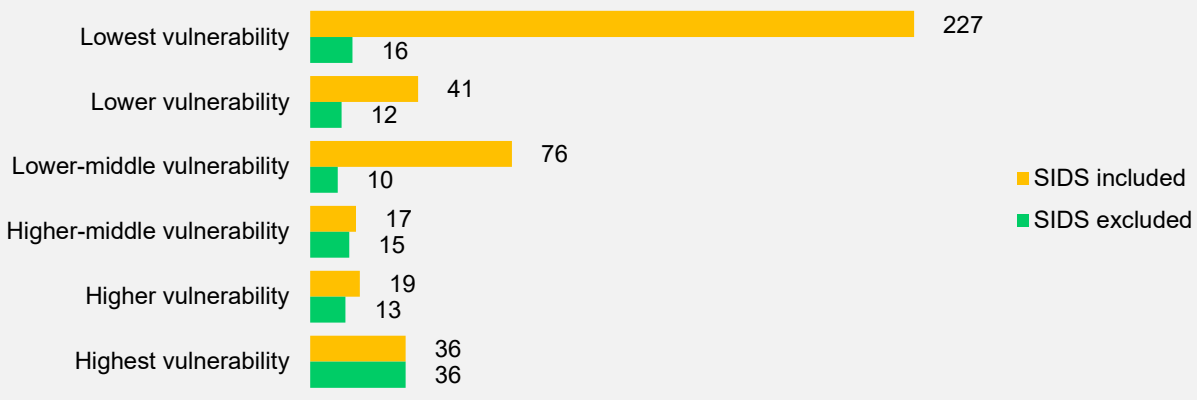
Figure 24: Distribution of adaptation finance based on physical vulnerability to climate change, 2019-2023 average, 2023 prices



Source: TOSSD and CRS CRDF.

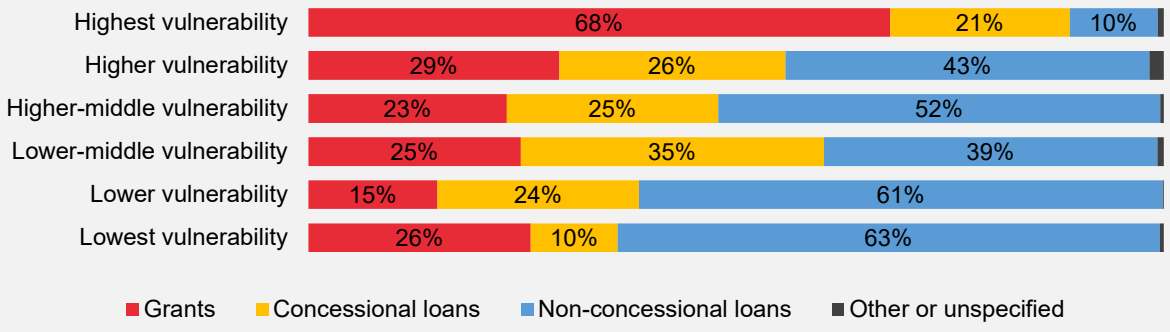
It is striking to note from Figure 25 below that the countries with the highest vulnerability are also those with high per capita income ($227 per capita per year). The same anomaly, albeit less pronounced, exists for other relatively vulnerable countries. This can be explained by the large amount of funds allocated to small island developing states (SIDS). If these countries are excluded, the anomaly disappears, as per capita income is similar across the different categories of countries.

Figure 25: Distribution of flows based on vulnerability to climate change and per capita income of recipient countries in dollars, 2019–2023 average, 2023 prices



However, the distribution of funds according to the degree of vulnerability of countries differs between instruments, grants, concessional and non-concessional loans, as shown in Figure 26 below. It can be seen that the most vulnerable countries receive around two-thirds of the funds (68%) in the form of grants, while conversely, the least vulnerable countries receive most of the funds in the form of non-concessional loans (63%). The share of concessional loans varies little from one country category to another. Thus, the surprising preference given to relatively less vulnerable countries when considering total flows is due to non-concessional loans. However, these amount to 40% of adaptation aid.

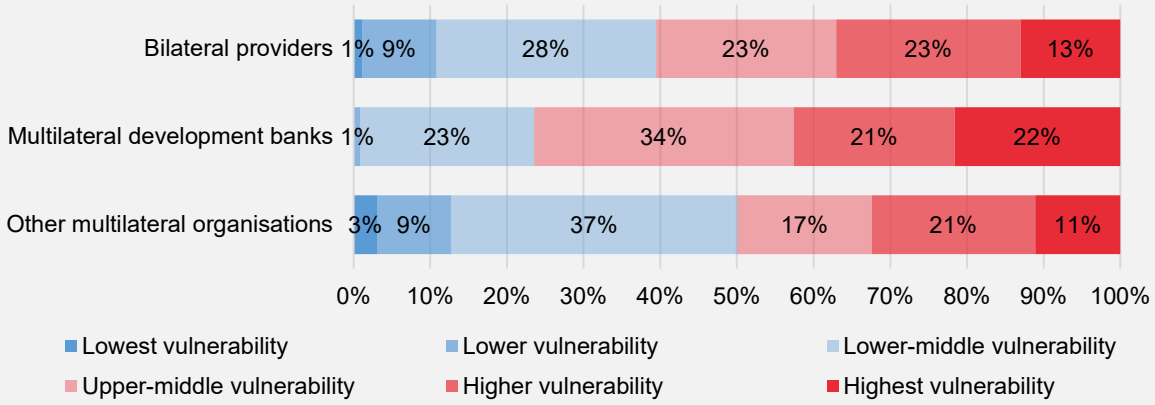
Figure 26: Distribution of climate adaptation finance by physical vulnerability to climate change by instrument type, 2019-23 average, USD, 2023 prices



Source: TOSSD and CRS CRDF.

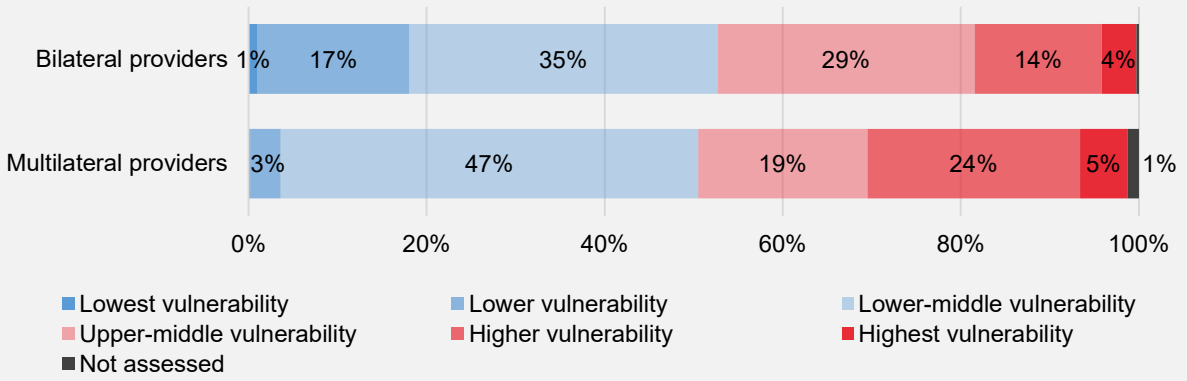
The following figures also show that bilateral and multilateral providers do not use the same proportion of grants and concessional or non-concessional loans, depending on vulnerability, but the differences are not significant, except for grants from multilateral banks, which are mainly directed towards vulnerable countries (77% compared to 59% for bilateral providers).

Figure 27: Distribution of grants for adaptation by provider type and physical vulnerability to climate change, 2019-23 average, USD, 2023 prices



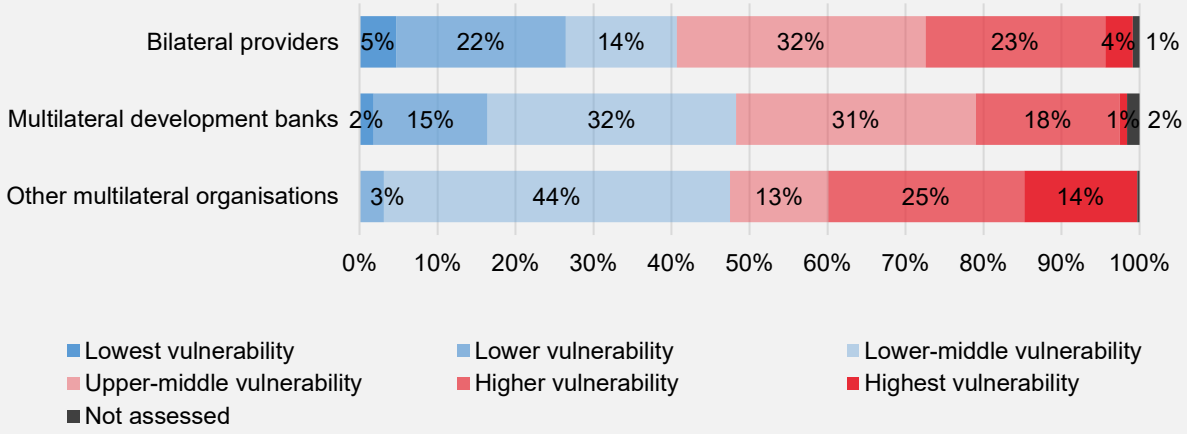
Source: TOSSD and CRS CRDF.

Figure 28: Distribution of concessional loans for adaptation by provider type and physical vulnerability to climate change, 2019-23 average, USD, 2023 prices



Source: TOSSD and CRS CRDF.

Figure 29: Distribution of non-concessional loans for adaptation by provider type and physical vulnerability to climate change, 2019-23 average, USD, 2023 prices



Source: TOSSD and CRS CRDF.

When we cross reference countries' per capita income with their vulnerability, we find the same anomaly as in the regional distribution, with regard to grants and, to a lesser extent, concessional loans: countries with high vulnerability, which therefore receive more aid than others, are also countries with high average per capita income. This anomaly is again due to SIDS, as shown in the following figures.

Figure 30: Distribution of grants based on vulnerability to climate change and per capita income of recipient countries in dollars, 2019–2023 average, 2023 prices

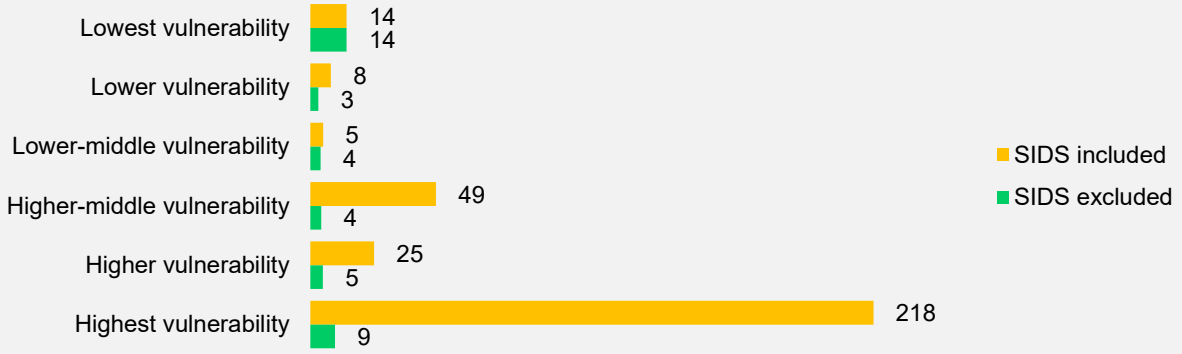


Figure 31: Distribution of concessional loan based on vulnerability to climate change and per capita income of recipient countries in dollars, 2019–2023 average, 2023 prices

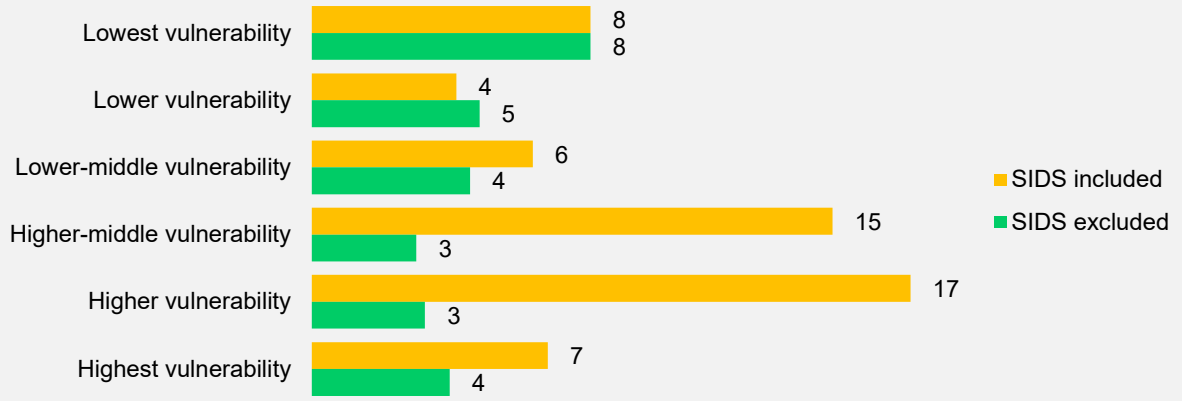
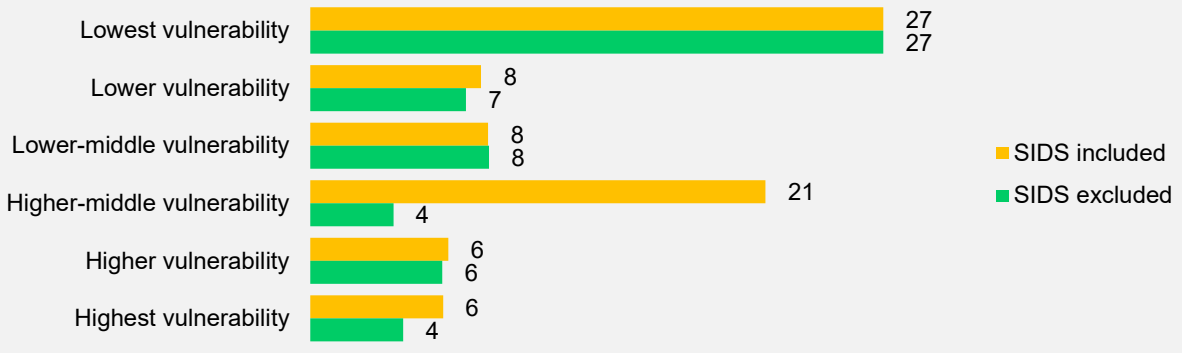
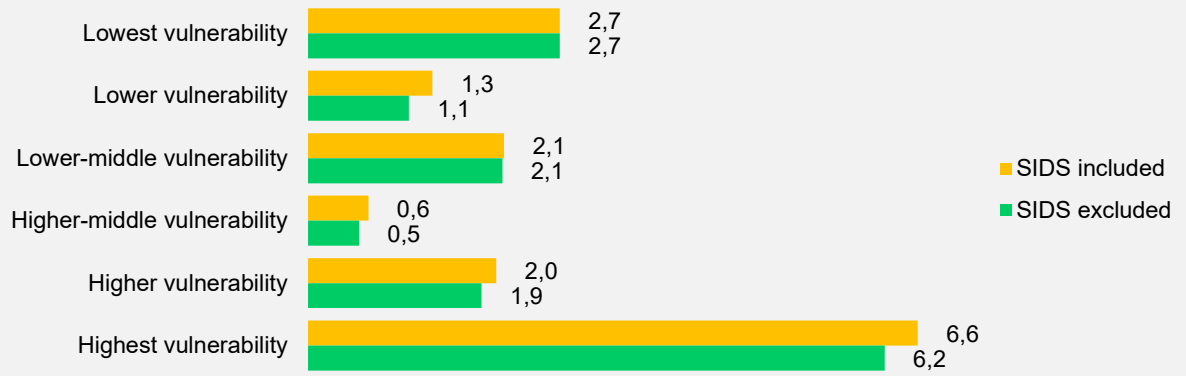


Figure 32: Distribution of non concessional loan based on vulnerability to climate change and per capita income of recipient countries in dollars, 2019–2023 average, 2023 prices



Finally, when we look at the allocations relative to the population (allowances per capita) in different countries based on their physical vulnerability to climate change, they reveal a different logic depending on the financial instruments, but one that is relatively similar to that of global flows. Per capita grants are largely directed towards the most vulnerable countries, which received an average of $6.2 per year (excluding SIDS) and $6.6 per year (including SIDS) over the period 2019-2023 (see Figure 33), an amount that is incomparable to that granted to intermediate categories. Conversely, concessional loans (see Figure 34) favor countries with intermediate vulnerability, particularly those in the "below median vulnerability" category ($3 per capita, including or excluding SIDS), while the most vulnerable countries receive only a modest amount ($1.9 to $2). Finally, non-concessional loans (see Figure 35) are overwhelmingly concentrated in the least vulnerable countries, which receive up to $6.6 per capita, while the most vulnerable countries receive virtually no such financing ($0.9 to $1.2).

Figure 33: Per capita grant allocations based on physical vulnerability to climate change, 2019–23 average, in dollars, 2023 prices

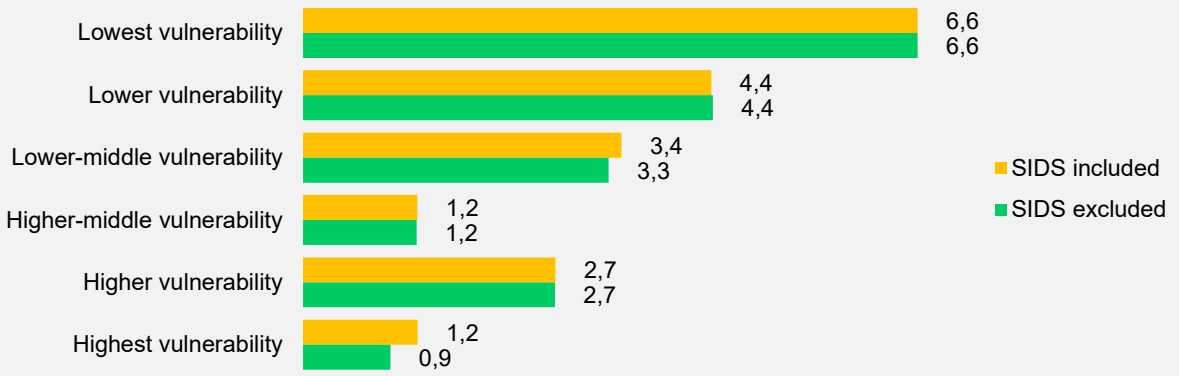


Source: TOSSD and CRS CRDF

Figure 34: Per capita concessional loan allocations based on physical vulnerability to climate change, 2019–2023 average, in dollars, 2023 prices

Source: TOSSD and CRS CRDF.

Figure 35: Per capita non concessional loan allocations based on physical vulnerability to climate change, 2019–2023 average, in dollars, 2023 prices



Source: TOSSD and CRS CRDF.

While grants for adaptation are largely allocated to vulnerable countries, the same cannot be said for loans (concessional or otherwise). As loans account for the largest share of adaptation finance (62%), the geographical orientation of adaptation flows does not reflect the relative vulnerability of different countries and therefore fails to meet its main objective.

6. Conclusion

During the last year under review, total international funding for adaptation reached $48.2 billion. Although it is difficult to quantify the needs of the developing world as a whole, the funding gap is considerable. For example, the World Resources Institute has projected that the developing world will need £340 billion per year in adaptation finance by 2030, from both public and private sources[13].

The decline in adaptation aid commitments (grants plus concessional loans) in 2023 (-9%) is therefore a cause for worry. This concerns multilateral aid, which fell by a total of 28% compared to 2022. On the other hand, bilateral aid increased slightly (15%). This decline in multilateral commitments is surprising given that donor contributions to international organizations grew by 15% in 2023, which allowed overall development aid payments to be maintained in 2023 (+1.6%). The decrease in multilateral commitments for adaptation accompanied a much smaller decrease (-2.4%) in the total commitments of these institutions. The decline in adaptation aid is all the more worrying as it is likely to accelerate with the drastic reduction in international aid in 2024 (-7.1% in disbursements) and even more so in 2025, when, according to DAC forecasts (April 2025), it could fall by between 9%

[13] Cited by Nancy Lee, Samuel Matthews and Bekir Armutlu, "MDBs Strategies in the most climate-vulnerable countries," Center for Global Development, p. 2.

and 17%. As for 2026, the outlook is particularly bleak. The steady increase in non-concessional loans does not compensate quantitatively or qualitatively for the decrease in aid (grants and concessional loans), given the wide variation among recipient countries.

When we consider the channels through which adaptation flows are supplied (mainly governments) and the sectors of intervention (social sectors and rural areas), we see the importance of international finance for development policy and the fight against poverty. However, concerns arise not only from the amounts of climate finance, but also from its instruments.

Climate finance for adaptation mainly takes the form of loans (62% on average during the period 2019-2023), due in particular to the weight of multilateral organizations, which are responsible for 64% of flows. As a result, low-income countries, which are generally too indebted and too poor to borrow, receive only a relatively small share of adaptation funding commitments (15%) or 19% if regional flows are excluded. Similarly, only 35% of the corresponding funding has been allocated directly to LDCs. However, due to their low past growth, low-income countries are not significantly responsible for CO2 emissions and climate change, even though they appear to be particularly vulnerable to global warming.

Thus, the most worrying aspect of climate finance for adaptation is its distribution according to the vulnerability of different countries to climate change: commitments to relatively vulnerable countries (on average over the period 2019-2023) accounted for only 53% of flows.

The most vulnerable countries were allocated only 6% of total funding. The least vulnerable countries receive 2% of funding and countries with low vulnerability 11%.

Aid (grants plus concessional loans) dominates in the most vulnerable countries: 89% of flows committed in these countries or in highly vulnerable countries (55%) (Figure 26). This contrasts sharply with non-concessional flows, which are most prevalent in low-vulnerability countries (around 62%). Ultimately, nearly half of the flows for adaptation (all three categories combined) are allocated to less vulnerable countries (47%). As a result, the resources allocated per capita are modest in vulnerable countries.

The purely descriptive analysis conducted here should be supplemented by an analysis of the "selectivity" of flows for adaptation. For each donor and for the vulnerability and per capita income criteria, a weighted average indicator for recipient countries should be calculated, comparable from one source of flows to another. It will also be possible to measure not the average impact, but the marginal impact of the vulnerability and per capita income of each recipient by econometrically estimating the elasticity of each type of flow in relation to these selectivity variables, in order to see the extent to which each source has been specifically sensitive to the degree of vulnerability of recipient countries in its

allocation choices[14]. See Guillaumont P., Guillaumont Jeanneney S. (2024) "Assessing the 'selectivity' of aid, taking into account the vulnerability of countries", FERDI *Policy Brief* B261. On the other hand, it would be very interesting to make the same analysis for disbursements, and not only commitments as in this present work, when the statistics will be available. It would be significant to look at the gap between the two series.

At any rate the present analysis raises questions about the effectiveness of finance for adaptation:

- Could some of the flows allocated to low-vulnerability countries be redirected to countries that need them most due to their high vulnerability? Countries with minimal and low vulnerability receive significant resources to adapt to climate change, about one-third of which is in the form of aid (Figures 28 to 30).

- This new distribution would also imply that part of the non-concessional flows would become concessional, probably at the cost of a reduction in volumes. Under what conditions would this be possible?

This new approach mainly concerns multilateral lenders (particularly development banks), which account for 85% of non-concessional loans: would it be desirable for them to increase the concessionality of their loans, rather than their volume?

[14] See Guillaumont P., Guillaumont Jeanneney S. (2024) "Assessing the 'selectivity' of aid, taking into account the vulnerability of countries", FERDI *Policy Brief* B261, and Feindouno S. “La vulnérabilité au changement climatique guide-t-elle l’allocation des financements d’adaptation ? Analyse empirique des bailleurs et des instruments sur la période 2019–2023 », published on the FERDI website and by the AFD: *Research Papers*, No. 402, 23 April 2026.

"Sur quoi la fondera-t-il l'économie du monde qu'il veut gouverner? Sera-ce sur le caprice de chaque particulier? Quelle confusion! Sera-ce sur la justice? Il l'ignore."

Pascal

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