# ADVOCACY BRIEF Financing Climate Action in Pakistan



Solutions and Way Forward

#### Authors:



Kirthisri Rajatha Wijeweera

Kirthisri is a senior economist with public and private sector experience of working both in Sri Lanka and internationally. Currently, he serves as Advisor, Nature Performance Debt Instruments, at UNDP. Kirthisri has over 15 years' of experience working with multilateral development agencies such as UNDP, IMF, World Bank and ADB, with expertise in public finance management, development policy, and sustainable investments, as well as experience in banking and finance industries.



#### Kamal Ali

Kamal is a banking/financial services professional with experience of working both in Pakistan and internationally. Currently, Kamal works as Senior Expert in Nature Capital and Financing at UNDP Pakistan . Kamal possesses over 20 years of experience working with banks, insurance companies and the Securities and Exchange Commission of Pakistan with expertise in credit risk management, financial sector policy reforms, regulatory compliance and portfolio management.



## **FINANCING A GREEN FUTURE**

Climate change is the gravest challenge of our time and how fast and extensively it is transforming the world does not need to be substantiated. Earth's changing climate is a combination of natural variation and human impact. Natural processes driving Earth's long term climate variability do not explain the rapid change observed in recent decades with available evidence consistently pointing to the fact that human impacts are playing a much larger role in climate change particularly through industrial activities that have resulted in alarming carbon dioxide levels in the atmosphere. Climate change can lead to dire consequences such as rising sea levels, increase in frequency and intensity of extreme weather events, worsening air and water quality, etc. warranting urgent measures to contain the greenhouse gas (GHG) emissions.

Momentum around climate change adaptation seems to be building, both in academic research and in political discourse. Decisions made now regarding infrastructure, research and finance will affect how climate impacts play out in the future; and it is clear that immediate and ambitious action is needed, not only to lower emissions but also to mitigate the impacts of climate change felt across the world now and by future generations. Adaptation, particularly, the adaptation which is transformative rather than incremental, requires resources and financing. In 2019, total climate finance provided and mobilised by developed countries for developing countries was \$80 billion<sup>1</sup>, and current estimates indicate that the \$100 billion goal for 2020 was not met. This had promoted the UK, host of COP26 in 2021, to call for more funding from wealthy countries ahead of the conference. The United States has recently pledged to increase climate financing.

According to the Global Climate Risk Index, between 1998 and 2018, Pakistan is estimated to have lost nearly 10,000 lives to climate-related disasters and suffered losses amounting to \$4 billion from 152 exteme weather events in that period<sup>2</sup>. According to another estimate by the World Bank, 15% of the GDP of the Sindh province in Pakistan is lost every year to environmental damage and climate change, warranting disaster risk mitigation measures to be put in place on a priority basis.



### I. Climate Financing Ecosystem

Significant investments are needed to support the global transition to a low-carbon climate resilient future in line with the 2015 Paris Agreement. Financial instruments play a critical role in creating incentives and in triggering financial flows towards these investments.

Governments around the world have put various financial instruments in place to drive climate change mitigation, backed by funding from a variety of sources. The climate finance eco-system comprises:



i. Public and private sources of funds.



 ii. Financial intermediaries which facilitate, access and manage coordination, collection, blending and disbursement of climate finance.



iii. Financial instruments that raise and/or deploy climate responsive investments.

<sup>1.</sup> Statement by the OECD Secretary-General on future levels of climate finance. (2021, October 25). OECD. Retrieved from https://www.oecd.org/newsroom/statement-by-the 2. International New York Times. (2020, September 26). The rising tide of climate disasters in Pakistan. Deccan Herald. https://www.deccanherald.com/opinion/the-rising-tide-ofclimate-disasters-in-pakistan-893234.html

# PUBLIC AND PRIVATE SOURCES OF FUNDS

#### A. International Public Finance Sources

Multilateral Funds: These support projects, policy

processes and technical support for international cooperation. Examples: Green Climate Fund and the Least Developed Countries' Fund.

**Multilateral Development Banks:** The banks foster economic and social progress in developing countries by financing projects including adaptation measures.

**Example:** The World Bank, International Finance Corporation, Asian Development Bank, European Investment Bank and European Bank for Reconstruction and Developent.

**Bilateral Cooperation:** The bilateral cooperation mechanism supports technical and financial exchange between two governments for implementation of policies, projects or specific measures, usually financed through bilateral development banks and national development organisations.

**Example:** the Nordic Development Fund and the European Union's Global Climate Change Alliance programme.

#### **B. Private Finance Sources**

**Non-profit Organisations:** National and international foundations and NGOs may operate on a regional, national, or international scale and may not be limited to a domestic context.

Market Debt: The largest source of potential private finance for climate change adaptation measures stems from investment and financial lending operations. **Example:** Green Bonds.



#### C. Domestic Public Sources

#### National Adaptation Funds: Established by national

or sub-national governments to financially or technically support adaptation actions. They are often part of a country strategy or development plan to drive policy implementation. Many national funds receive their resources from national (taxes, levies and fees, bonds, subsidies and ecological fiscal transfers) and international sources. Examples: Peoples Survival Fund in the Philippines.

#### FINANCIAL INTERMEDIARIES IN CLIMATE FINANCE

The role of intermediaries in catalyzing climate finance is gaining recognition in global policy space. Intermediaries play a critical role in shaping climate change policy and implementing it, and building capacities of developing countries to achieve climate finance readiness, i.e. planning, accessing, innovating, delivering, and monitoring climate finance activities.

Intermediaries in the public domain include National and Multilateral Development Finance Institutions (DFIs), Governments, Bilateral DFIs, and State-Owned Enterprises. According to Global Landscape of Climate Finance (2021)<sup>3</sup>, public actors provided 51% (\$321 billion) of annual climate finance.

Intermediaries in the private domain include Commercial Financial Institutions, Corporations, and Households and Individuals. According to Global Landscape of Climate Finance (2021), private actors provided 49% (\$310 billion) of annual climate finance.

**Example:** Pakistan's National Disaster Risk Management Fund (NDRMF)<sup>4</sup> is a non-banking financial intermediary with a corporate not-for-profit structure set up in line with the objectives of the Paris Agreement on Climate Change 2015 and Sendai Framework for Disaster Risk Reduction 2015. This also corresponds to the country's DRR and Climate Change policies (2013) and other frameworks including SDGs commitments.

<sup>3.</sup> Climate Policy Initiative. (2021, December 14). Global Landscape of Climate Finance 2021. https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2021/

<sup>4.</sup> About Us NDRMF – National Disaster & Risk Management Fund. (n.d.). National Disaster Risk Management Fund. https://www.ndrmf.pk/about-us/

#### FINANCIAL INSTRUMENTS

#### A. Financial Instruments for Climate Change Mitigation and Adaptation

#### GRANTS

Grants Play a key role in multilateral and bilateral financing in climate and environmental space. Grants are normally provided for non-revenue generating activities in recipient countries, such as capacity building, knowledge management and some other ongoing programmes. Grants help in capitalising the financial mechanisms related to adaptation, forestry and environmental preservation.

**Sources:** Bilateral institutions and international financial institutions.

#### **CONCESSIONAL FINANCE**

**Concessional Finance** targets high-impact projects responding to globally significant development challenges from climate change mitigation and resilience to vaccine deployment, water sanitation and education .

**Example:** Malaysia's Green Technology Financing Scheme (GTFS) provides soft loans to users of green technologies in energy, water and waste management, buildings and transport sectors.

China's Clean Development Mechanism (CDM) Fund<sup>5</sup> provides concessional loans for industrial activities which generate actual emissions' reduction. The loans have a three-year tenure and an interest rate, 15% lower than the benchmark rate.

**Revolving Funds and refinancing schemes** offer contingent loans which are repaid to the funds and schemes as the project matures and generates income. Designed to invest in a portfolio of projects in anticipation of successful projects allowing for reflow to the funds and schemes, making them sustainable. The loan is fully or partially waived off and not repaid- if the projects ramin unsuccessful.

**Example:** Bangladesh Bank has a revolving refinance scheme amounting to Taka 2 billion<sup>6</sup> from its own funds to broaden the financing avenue for green products such as solar energy, biogas plant and effluent treatment plants. Indian Renewable Energy Development Agency (IREDA) offers a refinancing scheme which allows as much as 30% of

the clean energy loans issued by commercial banks to be refinanced at  $2\%^7$ , provided that the interest rate from the lending institution does not exceed 5% per annum.

#### MARKET - BASED FINANCE

**Debt for Climate Swap** provides predictable and additional finance for environmental projects, including projects leading to a reduction in GHG emissions in countries burdened by huge amounts of debt.

Debt for nature swap involves a bilateral or multilateral donor, or a private investor, or a non-governmental organisation, writing off a portion of a country's foreign debt (whether commercial, bilateral or multilateral) in exchange for the country's financing environmental or conservation projects using local funds. It involves only climate change adaptation and mitigation projects (Voluntary and are financed at no extra fiscal cost to the recipient government). The OECD has estimated that debt for nature swaps generated almost \$1.1 billion for conservation measures, in return for debt with face value volumes of almost \$ 3.6 billion from 1991 to 2003.

**Example:** In 1991, Poland restructured its bilateral debt with its Paris Club creditors, wherein the creditors cancelled 50% of their claims. In exchange for five creditors cancelling an additional 10% of their claims, Poland financed an EcoFund of \$474 million<sup>8</sup> with an equivalent amount of hard currency used to finance the projects which reduce transboundary air pollution, pollution in the Baltic Sea, lower GHG emissions, and protect the country's biodiversity.

**Debt Finance** provides debt facilities in the form of a project loan or credit line to reduce the costs of a project. They provide concessionary funds that may be blended with more expensive commercial funding, and offers longer term debt than the ones may be available in local financial markets. The debt allows for a range of debt amortisation and repayment schedules to customise debt service costs to project cash flows.

**Example:** The Chilean Economic Development Authority offers credit lines to Chilean banks for lending to renewable energy projects.

The Low-Carbon Agriculture Programme of the Brazilian Ministry of Agriculture provides debt finance for sustainable agricultural practices aiming to reduce emissions from the agriculture sector by up to 173 million metric tonnes of CO2 equivalent (Mt CO2e) by 2020.

<sup>5.</sup> Overview--CDMFUND. (n.d.). China Clean Development Mechanism Fund. https://en.cdmfund.org/Overview\_Investment.html

<sup>6.</sup> Quarterly Review Report on Green Banking Activities of Banks & Financial Institutions and Green Refinance Activities of Bangladesh Bank. (2014, October 10). Bangladesh Bank. https://www.bb.org.bd/pub/quaterly/greenbanking\_octdec2014.pdf

IREDA NCEF Refinance Scheme. (n.d.). Startup India. https://www.startupindia.gov.in/content/sih/en/government-schemes/national-clean-energy-fund-Refinance.html
Financial instruments used by governments for climate change mitigation. (2018). WWF.

https://wwfafrica.awsassets.panda.org/downloads/wwf\_2018\_financial\_instruments\_used\_by\_governments\_for\_climate\_change\_mitigation.pdf?26723/financial-instruments-used-by -governments-for-climate-change-mitigation

**Equity Finance** the governments that provide equity for climate change mitigation projects give a capital contribution without receiving any guarantee of repayment. In doing so, they acquire ownership of the project. Thus, equity financing constitutes a strong commitment.

**Example:** Japan's Green Fund makes equity and mezzanine investments up to 50% of the total equity amount with the objective of decreasing the debt to equity ratio, to facilitate loan financing for clean technologies.

Australia's Clean Energy Innovation Fund provides equity (along with debt) for clean energy projects seeking growth of capital or early stage capital as does China's Clean Development Mechanism (CDM) Fund.

**Thematic Bonds** are the fixed-income financial instruments issued with the aim of addressing environmental and social problems through debt-based solutions.

There are a variety of terms currently used to classify bonds and other debt issuances with environment, social, and governance (ESG) components.

**Green Bonds** were created to fund projects which have positive environmental outcomes, or which contribute to reduce impacts of climate change. The majority of them are green 'use-of-proceeds' or asset-linked bonds. The proceeds from these bonds are earmarked for green projects but are backed by the issuer's entire balance sheet. These bonds are aligned with the Green Bond Principles of the International Capital Market Association (ICMA).

Green bond taxonomies can indicate the sectors eligible for financing from bond proceeds and include renewable energy renewable energy, energy efficiency, pollution prevention and control, urban and mass transit, circular economy adapted products, green buildings, and marine protection.

**Social Bonds** are the 'use-of-proceeds' bonds which raise funds for new and existing projects with positive social outcomes. Social project categories include affordable basic infrastructure, access to essential services, affordable housing, employment generation, food security, and socioeconomic advancement. The "use-of-proceeds" is ring-fenced. **Sustainability Bonds** are the bonds wherein the proceeds will be exclusively applied to finance or refinance a combination of green and social projects. Sustainability bonds are usually aligned with the ICMA's Sustainable Bond Guidelines or the Sustainability Bond Principles. The "use-of-proceeds" is ring-fenced.

**Sustainability-Linked Bonds** are a variant of sustainability bonds where the financing or structuring of the bond's coupon rate is linked to the entity's achievement of set key performance indicators and environmental and/or ESG objectives, failing which the desired debt relief is eliminated as a penalty. They are aligned to the ICMA's Sustainability Bond principles. As this is a 'general purpose' debt instrument, the funds are paid into the debtor government's budget, so they can also be used for other funding needs to free up fiscal space, as only a portion of the total debt financing would be directed to climate and nature activities.

**Example:** According to Bloomberg, the value of green bonds issued in the first six months of 2021 exceeded the whole of 2020, at \$248.1 billion<sup>9</sup>. Pakistan through its Water and Power Development Authority (WAPDA) issued a \$500 million green bond in May 2021 in line with its framework of March 2021<sup>10</sup>. The proceeds will be used for renewable energy and climate change adaptation categories to finance or refinance hydropower or wind energy projects, and projects relating to technologies to control and prevent floods.

Total issuance of sovereign sustainability-labelled bonds, which promise to use their proceeds to finance sustainable development, reached \$71.5 billion in 2020<sup>11</sup>, with 17 nations having tapped this mode of funding. Many of these bonds were oversubscribed as investors aim to integrate ESG criteria across their portfolios and to take steps to align their portfolios with the goals laid out in the Paris Agreement. In the first half of 2021, issuance of sustainability bonds surged to \$90.4 billion<sup>12</sup>.

Less widespread but also fast-growing are sustainability-linked bonds. These set specific sustainability performance targets which increase the bond interest due if the beneficiary does not meet them. Targets might include the amount of recycled materials used in manufacturing by a certain date, or the share of renewable energy generated by a utility. This year<sup>13</sup>, \$40 billion have been launched, compared to \$9bn in the same period last year. Social bonds, which raise money to promote positive social outcomes, tripled in value this year compared to the first half of 2020<sup>14</sup>

<sup>9.</sup> Bio Market Insights. (2021, August 10). Green Bonds Popular In Post-pandemic Recovery. https://biomarketinsights.com/green-bonds-popular-in-post-pandemic-recovery/

<sup>10.</sup> Pakistan issued first green bond. (2021). Green Finance Platform. https://www.greenfinanceplatform.org/policies-and-regulations/pakistan-issued-first-green-bond

<sup>11.</sup> Stewart, F., & Power, S. (n.d.). Linking sovereign debt with climate and nature targets. forestLAB. https://forestlab.partners/perspective/perspective-01/linking-sovereign-debt -with-climate-and-nature-targets

Bio Market Insights. (2021, August 10). Green Bonds Popular In Post-pandemic Recovery. https://biomarketinsights.com/green-bonds-popular-in-post-pandemic-recovery/
Willige, A. (2021, July 30). Why green bonds are beating all expectations in the post-pandemic recovery. World Economic Forum. https://www.weforum.org/agenda/2021/07/green-sustainability-bonds-beat-expectations/

## **B.** Insurance Solutions for Disaster Impact Mitigation

**Parametric risk insurance** uses environmental measurements, such as wind speed or the amount of rainfall, to trigger an immediate payout, thereby reducing the risks of climate change.

Unlike traditional indemnity insurance, parametric insurance does not price premiums and payouts according to the assessed damage to specific insured assets. Rather, parametric instruments model is 'damage-based' on environmental benchmarks; and is tracked by weather stations, satellites, and other data collection tools to approximate actual damages and issue payouts when these benchmarks are met.

**Example:** Carribean Catastrophe Risk Insurance Facility (CCRIF), a multi-country parametric risk pool, issued immediate payouts when Hurricane Tomas hit several Caribbean countries and caused severe damages across Barbados, St. Lucia, and St. Vincent. The CCRIF successfully disbursed 50 percent of the obligated funds in seven days after the storm and provided the remaining balance in 14 days after the disaster<sup>15</sup>.

**Catastrophe bonds**, or CAT bonds, allow insurance companies to transfer the risk of natural disasters covered by their policies to investors for a price. The money raised with these bonds is set aside to cover potential losses. If the triggers mentioned in the contract are met, the insurer gets to use the money to offset what it has paid out to policyholders. In that case, it no longer has to repay the holders of the bond, who can lose their investment - albeit having collected interest payments along the way. If the



natural disasters covered by the bond do not occur, the investors get their money back in full when the bond matures, usually in three to five years.

#### C. Other Instruments/Mechanisms

**Carbon offsets fund** specific projects that either lower carbon emissions, or sequester carbon, meaning they take some carbon out of the atmosphere and store it. Some common examples of projects include reforestation, building renewable energy, and waste and landfill management. Reforestation in particular is one of the most popular types of projects to produce carbon offsets. Carbon offsets are granted to project owners, who sell them to third parties like companies that want to balance the carbon they put into the atmosphere by paying to remove carbon from somewhere else.



<sup>15.</sup> Ogden, P., Bovarnick, B., & Hoshijima, Y. (2015, August). Key Principles for Climate-Related Risk Insurance. Center for American Progress. https://cdn.americanprogress.org/wp -content/uploads/2015/08/26131302/ClimateRiskInsurance-report.pdf



### II. Pakistan's Climate Finance Gap

Pakistan is vulnerable to the effects of climate change which has occurred due to rapid industrialisation with substantial geopolitical consequences. As things stand, the country is already experiencing the effects of climate change in the form of droughts, flooding, melting glaciers, and more. According to the HSBC's 2018 Global Research Report<sup>16</sup> ranking 67 countries based on their vulnerability to climate change, Pakistan has been ranked in top ten of the countries most vulnerable to climate change. However, the Global Climate Index 2021 based on 2019 data ranks Pakistan in top 20 countries<sup>17</sup>.

Pakistan is one of the first countries in South Asia to have formulated a dedicated Ministry of Climate Change and has a National Climate Change Policy since 2012, demonstrating the country's commitment to counter the adversities of climate change. Being a signatory to the Paris Agreement 2015, Pakistan had aligned its Nationally Determined Contributions (NDCs) with the country's economic and sustainable development vision with a target to reduce 20% of the projected emissions for 2030 that require approximately \$40 billion<sup>18</sup>.

Pakistan's updated NDCs reveal substantially enhanced ambition as compared to its first pledges after the Paris Agreement. In Pakistan's first NDCs, submitted in 2016, the Government of Pakistan had

#### PAKISTAN UPDATED NATIONALLY DETERMINED CONTRIBUTIONS 2021



Source: Pakistan: Updated NDCs, 2021

projected a whopping 300% growth in greenhouse gas (GHG) emissions between 2015 and 2030 based on a Gross Domestic Product (GDP) growth rate of 9% and increased reliance on fossil fuels. At that time, Pakistan intended to reduce up to 20% of its projected GHG emissions by 2030, subject to the availability of international grants.

In contrast, Pakistan's updated NDC sets a cumulative conditional target of an overall 50% reduction of its projected emissions between 2015 and 2030, with a 15% reduction using the country's own resources, and an additional 35% subject to international financial support.

This reduction in emissions is set to be achieved through an improved energy mix, green transportation, and a pledge not to build new coal power plants and a ban on use of imported coal for energy generation. The commitment also hinges on a massive tree plantation project called the Ten Billion Tree Tsunami Programme (TBTTP), now in its third year, with the government banking on its future success in carbon sequestering. Pakistan's NDC projects that the TBTTP will add 500 MtCO2e to the global carbon 'sink' by 2040, if implemented fully.



critical element in Pakistan's climate action journey. According to the NDC 2021, Pakistan's energy transition alone will require \$101 billion by 2030, plus an additional \$65 billion by 2040<sup>19</sup>, given the costs involved in completing in-progress renewable energy projects, building additional hydropower capacity and improving transmission lines, and phasing out coal. The tree plantation programme is estimated to cost \$800 million per year; and for now, this expense will be met from Pakistan's national resources, as an annual unconditional contribution. However, this is a major assumption unless continued financing mechanisms are put in place.

Further adaptation actions include the Protected Areas Initiative which entails expanding the coverage of protected areas from 12 to 15% of the total land area by 2023, at an estimated cost of Rs. 3.9 billion<sup>20</sup>. The Recharge Pakistan Programme, which is about building resilience to climate change through ecosystem-based adaptation for integrated flood risk management, requires an investment of \$150 million for deployment of climate resilient infrastructure.



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