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Diversification of financial instruments for addressing climate risk

Summary

At the twenty-sixth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, Parties urged the GCF Board "to explore diversifying its selection of financial instruments for addressing climate risk, including parametric insurance for climatic events" (decision 6/CP.26, para. 11). Through its decision B.32/08, the Board requested Secretariat to present by the thirty-fourth meeting of the Board (B.34) an information paper for the consideration of the Board for diversifying its selection of financial instruments for addressing climate risk, including parametric insurance for climatic events. This information paper outlines the strategic vision of GCF and the diversification of financial instruments for addressing climate risk; outlines experience with current financial instruments, including demand; the GCF approach to climate insurance, including parametric insurance; and reviews the application of financial instruments along climate risk management categories. It concludes on next steps for the Board and Secretariat.

I. Introduction

Background

1. At the twenty-sixth session of the Conference of the Parties (COP 26) to the United Nations Framework Convention on Climate Change (UNFCCC), Parties urged the GCF Board "to explore diversifying its selection of financial instruments for addressing climate risk including parametric insurance for climatic events" (decision 6/CP.26, para. 11).[1]

2. Accordingly, through its decision B.32/08, the Board requested the Secretariat to present by the thirty-fourth meeting of the Board (B.34) an information paper for the consideration of the Board for diversifying its selection of financial instruments for addressing climate risk, including parametric insurance for climatic events.[2] In line with this decision and in response to the COP26 guidance, the Secretariat presents this information paper for Board deliberations on diversifying its selection of financial instruments for addressing climate risk, including parametric insurance for climatic events.

3. The Board, through its decision B.08/12, among other decisions, noted that the use of other financial instruments to support the objectives of GCF is in line with the GCF allocation criteria contained in the investment framework and decided that GCF will work through accredited implementing entities and intermediaries, which may deploy the resources in approved projects and programmes by using financial instruments, focusing on grants, concessional loans, equity and guarantees.[3]

4. This information paper outlines the strategic vision of the GCF and the diversification of financial instruments for addressing climate risk; outlines experience with current financial instruments, including demand for increasingly innovative financial instruments, including (e.g. parametric insurance); and reviews the application of financial instruments along climate risk management categories.

II. Strategic vision of GCF and diversification of financial instruments for addressing climate risk

5. The long-term strategic vision for the GCF is to promote a paradigm shift towards low-emission and climate-resilient development pathways in the context of sustainable development. As part of its Strategic Plan for the GCF 2020–2023, the GCF seeks to advance its strategic priorities for 2020–2023 to strengthen country ownership of programming; foster a paradigm-shifting portfolio; catalyse private sector finance at scale; and improve access to GCF resources. The diversification of financial instruments is an enabling component of the vision for promoting transformational adaptation and for catalysing adaptation finance at scale.

6. The GCF adopted a four four-pillar approach to accelerating finance for climate action, which is enabled by the diversification of financial instruments. The four-pillar approach looks to:

(a) **Establish a conducive environment for climate action:** The first pillar focuses on creating a conducive environment for the emergence, diffusion, and widespread adoption of climate innovation; maximizing the co-benefits between mitigation,

[1] See document FCCC/CP/2021/12/Add.1, available from https://unfccc.int/documents/460954.
[2] https://www.greenclimate.fund/decision/b32-08.
[3] https://www.greenclimate.fund/decision/b08-12.

adaptation and sustainable development; and translating nationally determined contributions and other long-term commitments and targets into investment plans;

(b) **Facilitate the emergence of climate innovation:** The second pillar of the strategy aims to facilitate the emergence of climate innovation through the piloting of new technologies, business models, financing instruments and practices to establish proof of concept;

(c) **De-risk market-creating projects**: The third pillar of the GCF strategy aims at de-risking early investment in new climate solutions and new markets to establish a commercial track record and crowd-in private finance to mobilize climate finance at scale. mobilizing-;

(d) **Align finance with sustainable development to accelerate the widespread adoption of new climate solutions:** The GCF aims at strengthening the capacity of domestic financial institutions to: (i) mainstream climate risk and opportunities in investment decision-making; (ii) originate and develop climate investments; (iii) access domestic and international capital markets to finance climate investments; and (iv) apply strong environmental, social and governance standards for inclusive and responsible new climate solutions.

7. The comparative advantages of GCF make it uniquely placed to help developing countries address climate risk through diverse financial instruments in order transform ecosystems for climate investment. Relative to other entities operating in the climate finance landscape, GCF is distinguished by:

(a) **Climate expertise**: As the largest global fund specialized in climate change, GCF can provide technical know-how to strengthen climate investment capacities and methodologies and the use of climate information assessments, working to mainstream climate across all levels of decision-making among its broad network of partners;

(b) **Country-driven**: GCF empowers countries to translate their climate ambitions and priorities into action. It does this by supporting integrated risk assessment and investment planning; building capacities to access climate finance, including through direct access entities (DAEs); and evolving wider climate-compatible enabling environments and financial systems;

(c) **Partnership institution**: GCF operates through a network of over 200 accredited entities (AEs) and delivery partners, and this number is still growing. This positions GCF as a hub within the climate finance architecture: with the ability to forge novel investment partnerships between public, private, local and international actors and leverage diverse expertise and financing sources to advance developing countries' programming ambitions;

(d) **Risk-taking; patient capital**: As a fund rather than a bank, GCF is designed to accept risks that others may not to catalyse climate action, such as (i) investing in early-stage project development, innovation, and unconventional asset classes, including for adaptation and for the most vulnerable; and (ii) to unlock climate action and de-risk more conservative sources of finance;

(e) **Flexible financial instruments**: GCF is capital-agnostic and can deploy a wide range of grant and non-grant instruments, including concessional debt, equity, guarantees. GCF's flexible financial instruments allow GCF to start from the needs of the project and structure support as required, and explore new forms of blended finance to unlock new markets for climate solutions; and

(f) **Balanced investment; focus on most vulnerable**: The GCF is committed to balance allocation of funding to adaptation and mitigation, and dedicates at least half of the adaptation resources to small island developing States, least developed countries and African States. The GCF's focus on adaptation and the most vulnerable allows it to deploy its unique risk appetite, programming scale and network of partners to attract public and private partners to investments which accelerate and scale up innovative solutions and business models in underserved areas.

8. Furthermore, the GCF risk appetite, as set out in the GCF's formal Risk Appetite Statement, allows the deployment of financial instruments to accept considerable uncertainties around investment risks in return for impact potential, to be evaluated on a case-by-case basis recognizing specifics of each proposal. Through the first level project appraisal and due diligence of its accredited partners and its own second level project appraisal and due diligence, the Fund strives to mitigate programme risks to provide reasonable assurance that investments can fulfil their stated objectives. To this end, GCF is set up to assist developing countries to enhance adaptive capacity, strengthen resilience and reduce vulnerability, in line with the goals set out in the UNFCCC and Paris Agreement, and works through its partner AEs to deliver such vision. These entities have demonstrated the fiduciary capacities to deploy financial instruments fit to their expertise.

9. The strengths of the GCF comparative advantage enables **GCF's vision, approach and scope for providing support to enhance climate adaptation** and allows developing countries access to diverse and adequate financial instruments to address climate risk. This is further reinforced by the promotion of transformational planning to guide how policies, institutions and investments build and enhance resilience both at the level of individual assets and services as well as system-wide. This exercise includes guiding and identifying choices to address climate risk, select appropriate financial instruments and identify any required improvements to regulations. Resources have been made available through the Readiness and Preparatory Support Programme to assist developing countries in engaging in transformational planning, including for the exploration of innovative financing instruments to address the adaptation financing gap and financial engineering to increase access to long-term affordable finance. These resources can transform financial ecosystems to enable investment to manage climate risk.

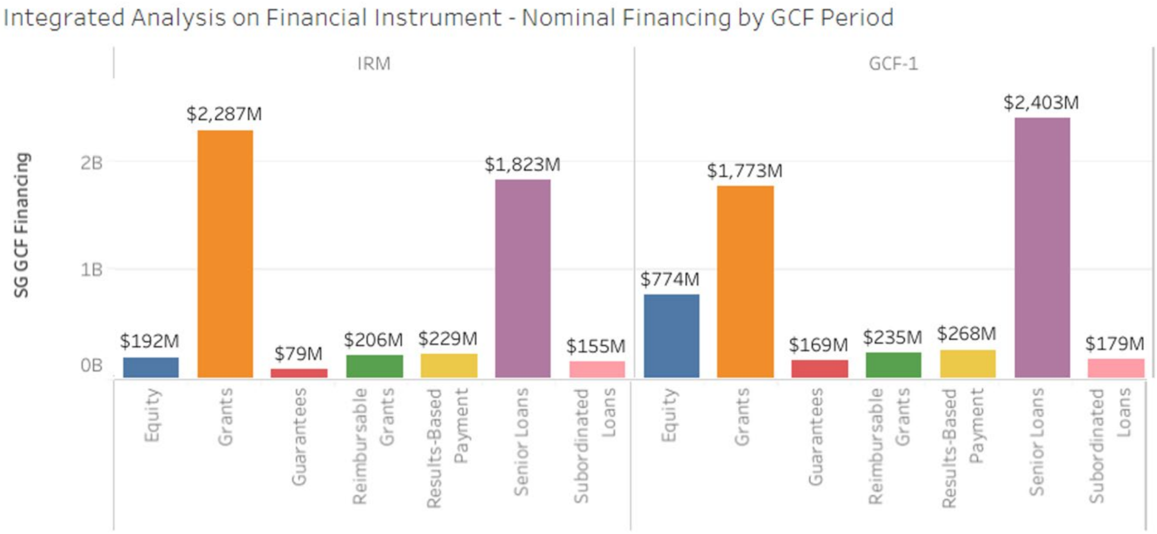
10. As the portfolio consolidates, there has been growing demand for GCF to invest in required enabling frameworks for climate insurance, and additionally, develop innovative instruments for local currency, exploring alternative sources of finance such as the International Monetary Fund's Special Drawing Rights, debt-for-nature swaps, green, blue and resilience bonds, and the development of carbon markets.

III. Financial instruments

11. The GCF provides AEs and partner countries with a suite of flexible and highly concessional financial instruments. The flexibility of its instruments enables GCF to address both the demand and supply side of green market creation, and provide policy de-risking, as well as financial de-risking along the capital structure and the different stages of the risk management cycle. The GCF's patient and highly concessional capital can enhance a project's risk and return and make it financially attractive and sustainable. A successful implementation of the project establishes a commercial track record, enables financiers to better assess and price risks, and makes it scalable.

12. The GCF's policy and financial instruments include grants, concessional loans, equity and guarantees, and these can be combined to create specific solutions adapted to the unique requirements of each climate initiative.

13. Building on the comparative advantage of the GCF of being country driven and capital agnostic, GCF has worked with countries and accredited entities to better utilize the flexible range of financing instruments offered by the GCF to accelerate climate action and enable greater access and impact. Grants, loans, and reimbursable grants were initially the most commonly accessed financial instruments. As the graph below shows, the use of guarantees for credit enhancement and equity, including first loss, has gradually increase as developing countries fully access the diversity of financial tools in a targeted matter to address project needs and conditions and explore new forms of blended finance to unlock new markets for climate solutions.



14. The distribution of financial instrument according to sectors is captured below.

Integrated Analysis on Sector Guide Financing by Financial Instrument

(Pivot) Sector Guide	Equity	Grants	Guarantees	Reimbursable Grants	Results-Based Payment	Senior Loans	Subordinated Loans	Grand Total
Agriculture & Food Security	$165M	$639M	$11M	$0M	$0M	$209M	$0M	$1,023M
Cities, Buildings and Urban Systems	$95M	$174M	$38M	$12M	$0M	$675M	$55M	$1,049M
Climate Information & Early Warning Systems	$0M	$639M	$0M	$0M	$0M	$9M	$0M	$648M
Ecosystems and Ecosystems Services	$90M	$806M	$30M	$16M	$0M	$208M	$0M	$1,150M
Energy Access & Power Generation	$175M	$324M	$132M	$343M	$0M	$1,355M	$216M	$2,544M
Energy Efficiency	$143M	$173M	$38M	$0M	$0M	$841M	$59M	$1,254M
Forest & Land Use	$57M	$633M	$1M	$21M	$497M	$378M	$0M	$1,587M
Health & Well Being	$211M	$83M	$0M	$0M	$0M	$55M	$0M	$349M
Low Emission Transport	$30M	$114M	$0M	$0M	$0M	$478M	$5M	$628M
Water Security	$0M	$473M	$0M	$49M	$0M	$18M	$0M	$540M
Grand Total	$966M	$4,059M	$248M	$441M	$497M	$4,226M	$334M	$10,772M

15. **Grants** are used to support countries in with frameworks developing create an enabling policy environment for projects addressing climate risks. As of July 2022, the GCF has approved over USD 4 billion in grant finance, accounting for more than 40 per cent of the overall portfolio. They can also be used to finance priority public goods that do not generate a financial revenue for private investors.

16. The GCF offers **debt financing** through concessional loans to public and private borrowers acting as a junior lender, when relevant. The GCF concessional loans enable public sector partners, with the relevant fiscal space and borrowing capacity, to access an alternative

source of debt financing and finance projects addressing climate risks with the potential to generate revenues or result in avoided financial losses. In the context of private sector operations, debt financing (i) enables seed climate investment vehicles to crowd-in domestic capital and finance projects addressing climate risk without altering the shareholding structure of projects and companies; and (ii) creates a track record by demonstrating projects' and companies' abilities to repay debt. Concessional debt is essential to the GCF toolkit in addressing the climate risk as it enables investors with different risk profiles and appetite to be crowded in.

17. Although grants and concessional loans have been predominant tools for supporting climate projects in the past, GCF's portfolio is shifting towards high-impact instruments such as equity and guarantees. Global trends highlight the potential of guarantees and equity to mobilize more capital than any other instrument as they expand developing countries' access to capital markets at a lower cost and longer maturities. According to OECD data on amounts mobilised from the private sector by official development finance interventions between 2012 and 2018, guarantees mobilised more private capital than direct investments.

18. The initial experience of GCF with new forms of blended finance is consistent with these global trends and seems to also indicate a strong potential of these instruments to catalyse private finance at scale in adaptation, including in the LDCs, SIDS and African States, which have historically received the least amount of private investment.

19. The GCF supports investment climate risk management through the full range of financial **guarantee** structures. Partial or full risk credit guarantees help projects reduce credit losses of guaranteed loans and increase recovery rates for the lenders and allows borrows to obtain the lower funding cost and investors to reach their investment goals. Guarantee products can be structured in multiple ways. A guarantee can take the form of a revolving fund, partly funded by an initial grant, with additional revenues from fees paid by the service user. Proceeds from the guarantee funds could be deployed to guarantee or insure a specific element of a programme (e.g. energy savings guarantee). Specific contract guarantee to power purchase agreements (PPAs) and contract for differences (CfD) could also be structured to transfer risk and incentivize investment from project developers who typically bear high upfront costs for capital expenditure and long lifetimes for returns on investment.

20. Guarantees can also play a key role to enhance the credit profile of bonds and facilitate developing countries' access to global capital markets to advance building resilience in developing countries and address climate risk. A guarantee can act as a credit enhancement mechanism for a new issuer by guaranteeing the partial or total repayment of the money borrowed. The GCF is exploring options to deploy guarantees in a more efficient manner, in absence of a credit rating, through partnerships with green guarantee companies. This may include an equity investment by GCF in a green guarantee company that will obtain an investment grade credit rating. This rating will enable the guarantee company to leverage its balance sheet up to c. 10x (providing 10x more guarantees to climate projects than its own equity). By being one of the anchor equity investors in the company, GCF will mobilize new investors in the green guarantee company itself.

21. Guarantees are also important solutions for countries that experience currency fluctuations and do not want to take on the foreign exchange risk of receiving dollar denominated loans from GCF. By providing a guarantee rather than a loan, GCF allows local financial institutions to provide loans in local currency at lower rates. This is extremely important for borrowers such as MSMEs that do not typically access international climate finance. Leveraging international experience and best practices with regards to guarantees and credit rating is also crucial as this has the potential to scale up projects.

22. In a context of heightened risk perception in developing countries, GCF will work to enhance the deployment of guarantees to: 1) expand developing countries' access to capital

markets at a lower cost and with longer maturities thanks to the reduction of credit risks, especially for small states; 2) accelerate the recognition of climate assets suitable for institutional investors seeking 'safe investments havens', thanks to the reputational effect of a selection of projects with multilateral backing, robust and transparent eligibility criteria and strong governance to assess the projects climate potential; 3) strengthen climate disclosure through high grades in the environmental notation of these climate assets; 4) increase the effectiveness of carbon pricing with more mitigation activities unlocked by a given price level, a stronger employment impact and higher funding facilities to help industries adapt, and; 5) free up grant capacities for SDGs and adaptation by crowding in private investments for mitigation.

23. **Equity** also offers flexibility and de-risking potential. GCF can deploy all forms of equity or provide venture or seed capital for early-stage companies and projects addressing climate risk. Equity is a form of long-term patient funding that covers financing needs for ventures and companies at different level of maturity, which allows GCF to invest at an early development stage in companies and technologies addressing climate risk. This approach supports the scaling up of innovative projects while avoiding constraints on investee companies with debt repayment obligations. Through equity investment GCF promotes innovative technologies and business models. It plays a catalytic role and allows investors co-investing with GCF to allocate more financing to projects addressing climate risk with high potential returns.

24. Equity deployed as an early-stage financial instrument can de-risk innovation to offer new types of products or services, often with direct-to-consumer or other innovative distribution channels. Such initiatives can be a catalytic way to pilot new solutions, create a track record and increase the likelihood of creating low-emission and climate-resilient markets from large-scale investment. For example, GCF has invested in CRAFT Fund (FP181 approved at B. 30) that does minority equity investments in climate adaptation technology companies in six sectors such as water harvesting, climate catastrophe risk modelling or agriculture analytics. These new equity investments support companies' growth by entering new markets and new developing countries that have high adaptation needs.

25. GCF is also developing different types of growth-stage debt to provide climate enterprises with the required lower-cost operating and expansion capital as they transition from product development and early sales into growth stage. For example, GCF is providing USD 20 million in equity and USD 5 million in grants to Acumen's USD 110 million KawiSafi Ventures Fund to leverage private equity for SMEs involved in off-grid renewable energy in East Africa. The KawiSafi Fund makes investments of USD 2-10 million in 10 to 15 clean energy small and medium-sized enterprises in Kenya and Rwanda.

26. **Case Study 1** provides another example of how GCF can deploy equity for mitigation and adaptation solutions, this time at the deployment stage to apply new climate solutions at commercial scale and establish a track record. This track record enables financiers to better assess and price risks to support the widespread adoption of new climate solutions.

3.1 Case Study 1- Equity- Subnational Climate Fund

27. This generic structure was adapted for the Subnational Climate Fund Global (SCF Global) managed by Pegasus Capital Advisors. This project, approved by the GCF Board in 2020, leverages USD 150 million in first loss equity investment from GCF to mobilise USD 600 million of senior private equity for mitigation and adaptation solutions at the subnational level (provinces, municipalities). A multiple of this amount is expected to be catalysed in entrepreneur equity and debt finance. GCF's anchor funding and first-loss equity coverage will unlock both public investors and private institutional investors (Pegasus Capital Advisors, 2020). This is the first time an impact equity fund mobilises public (20 per cent) and private

sector (80 per cent) funding at scale to de-risk subnational middle-scale infrastructure projects. The subnational level is key as 70 per cent of known climate solutions are located within the boundaries of subnational authorities. Significant additional investment is needed at the subnational level to achieve the goals of the Paris Agreement. At the same time, private investment is limited by several barriers that result in chronic underfunding of bankable mitigation and adaptation projects at the subnational level, specifically at the deal size of USD 5-75 million. Thousands of high-merit subnational projects are bypassed by commercial financing because investors prefer perceived safer and larger investments. Almost half of the 42 countries participating in the programme are LDCs and SIDS - the most vulnerable countries to climate change - which are most often overlooked even at the national level by private equity finance because of perceived higher risks or lower long-term market opportunities. The equity fund implemented with Pegasus is complemented by a Technical Assistance Facility that is implemented with the International Union for the Conservation of Nature. This USD 18 million grant facility will support the development of investment projects for submission to the fund by establishing proof of concept for mitigation action and blueprints for climate resilience, as well as establishing tools and metrics to be used by investors to track impact and building the capacity of project developers and local and regional actors to participate in the fund.). At B.33, the Board considered the second review of the GCF's financial terms and conditions of GCF's financial instruments, through decision B33/14, the Board requested the Secretariat to present an approach in which GCF can more efficiently deploy its current financial instruments, with a view for the Investment Committee to review and make a recommendation to the Board by B.36. Decision B33/14 also requested the Secretariat to review the financial terms and conditions of the Green Climate Fund financial instruments in accordance with the terms of reference set out in annex I to decision B.BM-2019/08, as may be amended pursuant to decision B.BM-2019/08, with a view for the Investment Committee to review and make a recommendation to the Board for consideration no later than the thirty-seventh meeting of the Board; and in the third year of every four-year policy cycle thereafter prior to commencement of the new replenishment programming period.

28. Additionally, in accordance with Decision B33/14(c), the Secretariat is developing a local currency financing pilot programme that addresses current barriers and risks associated with currency fluctuations at the programme/project level, including an analysis of the requirements for operationalization and impact assessment of a programme, with a view for the Investment Committee to review and make a recommendation to the Board. This could open a range of new de-risking tools for the Green Climate Fund. Currently only a few projects were able to use GCF concessionality to purchase third-party hedging solutions to foreign exchange risk. Hedging foreign exchange risk is costly for developing countries, and these are regarded as frontier markets with less liquid and underdeveloped capital markets. The portion of GCF concessionality needed to cover the cost of hedging foreign exchange risk will therefore also depend on the depth of local financial markets.

29. The GCF can improve support to DAEs and MSMEs with solutions to mitigate exchange risk for foreign investors. Foreign exchange rate poses challenges in terms of the abilities of AEs, more specifically DAEs, to pass GCF concessionality to end beneficiaries downstream. Projects often need to engage in capital expenditure using hard currency while receiving payment for the services they provide in local currency. The currency mismatch exposes climate outcomes to significant risk in case of severe currency depreciations. Local currency financing is therefore critical to improve the financial sustainability, and therefore the scalability, of projects and the affordability of services.

GCF approach to climate insurance, including parametric insurance

30. Similarly, to guarantees and equity, GCF is also responding to a growing demand for climate insurance, including parametric insurance. GCF recognizes the contribution of insurance to climate-resilience. Insurance provides governments, businesses, and households a means of risk insulation, protecting productive assets, livelihoods and communities. Strong insurance markets also help governments maintain stable fiscal balances and diversify their policy choices following climate-related disasters. Insurance markets also have historically had an economic multiplier effect as accumulated funds are invested into domestic capital markets, invested in infrastructure development, and stimulated private enterprise. In vulnerable countries, insurance can promote food security across natural cycles by protecting crops and livestock and making farmers bankable. Insurance also facilitates access to healthcare, pensions and savings, enhancing health and welfare of populations and complementing social safety nets.

31. Deploying climate risk insurance has been challenging in developing countries where insurance markets are underdeveloped. As a result of low access and awareness, the poorest individuals are typically uninsured for major life events. The insurance protection gap is worsened by the high cost of insurance deployment and its limited affordability by vulnerable communities. In addition, weak regulatory and policy incentives limit market growth and innovation, and options for financing insurance.

32. GCF broadly supports the use of insurance as a component of integrated risk management in projects and programs to incentivise investment in resilience building activities, using the financial instruments available and accreditation standards of its entities. At the level of the enabling environment, GCF supports building the regulatory and market infrastructure of climate insurance, improving climate information access and availability, loss forecasting capabilities, and building supportive regulation and knowledge platforms. Through private sector modalities, GCF is exploring use of financial technologies in the insurance sector to unlock opportunities for cost reductions, improved risk pricing and consumer reach. Parametric insurance is of critical importance to GCF given its application in financing innovations in marine and coastal ecosystems, livelihoods restoration, and biodiversity preservation.

33. As of 1 August 2022, GCF's portfolio includes 9 projects that have directly financed the design, structuring and launch of **parametric insurance for climate risk** in sub-Saharan Africa. Projects operate at the micro, meso- and macro-levels to serve agro-pastoralists and MSMEs facing drought risk. AEs sponsoring projects engage a broad network of local and international insurers, modelling firms, financial institutions, fintech firms and insurance distributors. GCF projects serving farmers and households also provide partial premium subsidies to bridge the affordability gap, coupled with awareness raising on savings and micro-finance. GCF projects also assist governments with designing processes for allocating budgetary resources for premium payments, and for distribution of sovereign insurance pay-outs at the sub-national levels. In the case of FP162, GCF financing will update drought risk models of Africa Risk Capacity to re-calibrate parametric indexes and triggers, reducing 'basis risk'. GCF has also assisted with integration of insurance planning into housing and infrastructure funds, for instance in the Caribbean (FP133, DOE Antigua Barbuda).

34. Parametric insurance, which responds to projected impact on the occurrence of an event of pre-defined severity lends itself to applications applicable across GCF results areas. GCF sector guides outline opportunities for use of parametric insurance in transformational projects in the areas of agriculture, food security, ecosystems and resilient infrastructure. GCF aims to collaborate further with sovereign risk financing pools on parametric solutions for financial sector de-risking, infrastructure planning, and ecosystem conservation broadly. GCF also aims to deploy Readiness support to build awareness of insurance instruments, and upscale deployment of Project Preparation Facility grants to reduce the high up-front development

costs of parametric insurance schemes. In parallel, GCF's CIEWS investment are targeting availability and reliability of data to inform parametric insurance product development, loss modelling and forecast based financing. Finally, GCF is looking at the applicability of parametric insurance for countries seeking access to climate finance on capital markets via blue bonds, catastrophe bonds, and debt for nature swaps.

35. GCF has thus far found a high demand for funding via grant and guarantees in support climate risk insurance. While it is expected that grants will remain the primary means of GCF support for parametric insurance, experience has shown that scaling up insurance for the most vulnerable is limited by the capacity to pay for insurance coverage in a sustainable manner, as well as by a limited supply of insurance providers to create a sustainable market. GCF is exploring new avenues to deepen insurance markets, including guarantee and equity opportunities in sovereign-owned and private insurance companies.

36. GCF is also building partnerships with leading institutions in the insurance industry, including insurers already well placed deploy their risk capital and satisfy jurisdiction-specific prudential, fiduciary, licensing, and other requirements to underwrite insurance products locally. As such, it is expected that a blend of GCF's existing financial instruments should allow GCF to continue to influence the development of climate insurance.

Case study 2 FP162: Africa Integrated Climate Risk Management Programme (AICRM)

Approved at B.28 (March 2021), USD 82 million in GCF grants
Accredited entity: International Fund for Agricultural Development (IFAD)
Executing entities: Country governments, IFAD, African Development Bank, African Risk Capacity Group, World Food Programme, and others.

The Sahel region of Western Africa is exceptionally vulnerable to climate change with worsening impacts of rising temperature, rainfall variability and extreme weather events. Reliance on rain-fed farming and pastoralism for income and subsistence means that livelihoods and food security are inextricably linked to climate variability across the region. The AICRM programme will build, strengthen and scale up the resilience and adaptive capacities of smallholder farmers and rural communities of seven least developed countries in this region. It will provide capacity-building and institutional development on integrated climate risk management. This includes reducing obstacles to access agricultural insurance for governments and smallholder farmers to enhance resilience-building and strengthen climate weather information services. The programme has three components:

Component 1. Climate risk preparedness: Supports the expansion and upgrade of existing early warning systems and hydromet observation networks as well as capacity-building to enhance data collection, interpretation, understanding and dissemination of climate data. The data will inform forecast-based action programmes, namely those for the development of the micro and macro insurance industry (climate models and agricultural insurance products/services); the selection of the adaptation practices/technologies and mitigation measures to respond to climate variability; and decision-making, planning and investments of the private sector, governments and local rural communities, and smallholder farmers. Component 2. Climate risk reduction (adaptation and mitigation): Strengthen climate change adaptation capacity and boost climate-resilient and low-emission investments in smallholder agriculture value chains and food systems through a better adoption and implementation of climate adaptation and mitigation best practices in forestry, land use, renewable energy access and solutions, and the diversification of livelihoods. Component 3. Climate risk transfer (micro and sovereign risk transfer mechanism): Support countries and smallholder farmers in addressing multi-hazards (droughts, heatwaves, floods, diseases, locusts and other pests) to agriculture and livestock value chains. Under this component, residual risks on smallholder farmers will be transferred to national and international insurance markets with compensation for weather-related shocks and multi-hazards so as to prevent farmers from resorting to negative coping strategies (selling of animals and assets, migration, competition over resources and conflicts) in the event of climate disasters. Enhanced hydro-meteorological information and standard operating procedures linking hydromet information to early adaptation response will support public, private sector (insurers and reinsurers, microfinance institutions, banks) and businesses investment decisions on climate risk transfer and products. Climate information will ultimately support agricultural policy and planning, investment programming and resilience planning at national and local levels.

37. GCF currently does not have AEs that are insurers but has supported AEs working with insurers as implementing partners in a variety of projects and programs. The Secretariat is actively engaged with AEs and industry partners to collaborate in developing insurance products and applications within its existing policies and financial instruments. GCF is a member of the InsuResilience Global Partnership and is in discussions with global reinsurers, regional risk pools such as African Risk Capacity Group and Caribbean Catastrophe Risk Insurance Facility, market intermediaries, IAEs and DAEs to explore areas of collaboration.

IV. Application of financial instruments along climate risk management categories

38. This section reviews the current experience in the application of different financial instruments and modalities across the climate risk management spectrum, namely climate risk assessment, reduction, retention, and transfer. This assessment is carried out for the purpose of this paper only, as GCF activities are not marked according to climate risk management categories, but according to result areas.[4]

Risk assessment

39. The GCF granted more than 435 USD million in readiness support to partner countries of which 168 USD million or almost 40 percent went to adaptation planning. This support enables countries to conduct transformational planning and identify climate risk, including through the preparation of systemic resilience assessments and improving the availability and reliability of climate data and analytical tools to assess climate risk. Existing support via national adaptation plans (NAPs) is enabling climate vulnerability mapping, data analysis for NAP implementation, capacity-building and training to raise awareness of financial products, including insurance, to national designated authorities, regulators and other stakeholders. Annex I provides an overview of existing approved GCF support for the formulation of NAPs and other adaptation planning processes. Additionally, 8 of 50 PPF proposals support projects with activities in climate information, early warning systems, and in informing the design of insurance facilities. These include projects approved by the Board, or that are to be considered in upcoming Board meetings.[5]

40. GCF has also supported risk assessment through grants in funding proposals. In Cambodia (FP076) for instance, GCF supported the formulation of agribusiness policies and standards aimed at addressing climate risk. GCF in collaboration with International Fund for Agricultural Development (IFAD) (FP162), is developing and implementing integrated approaches to risk assessment, reduction and transfer in agro-pastoralist communities across

[4] https://www.greenclimate.fund/themes-result-areas.
[5] These are approved PPF funding or PPF service applications: PPF002, PPF033, PPF034, PPF036, PPF46, PPF50, PPF52, PPF54.

seven countries in the Sahel region. The GCF supported the development and financing of climate-resilient action plans in the urban environment at a multi-country scale, in collaboration with the European Bank for Reconstruction and Development (FP086). The GCF has been working on mainstream climate finance in financial institution portfolios. The GCF-IFAD project in Niger (SAP012) provided capacity-building and technical assistance to the Agricultural Bank of Niger and local microfinance institutions with the objective of enhancing their ability to finance climate-resilient technologies addressing climate risks.

41. GCF grant support for risk assessment is serving to build long-term capacity to integrate physical climate risks into decision-making and valuation by addressing the lack of consistent data and analytical tools to convert raw climate data into information that is relevant to investment decisions. In Antigua and Barbuda (FP133), the GCF provided financing to both the strengthening of climate information services to better respond to extreme climate events, as well as investment in improving the resilience and the fast recovery (in the case of an extreme event) of public services and community buildings. This included climate-resilient hospitals as it is critical to provide uninterrupted health services during extreme climate events. Looking at the health dimension of climate risks, GCF supported the establishment of an integrated health and climate information system in Samoa in collaboration with the United Nations Development Programme (UNDP) (FP037) to help health policymakers and practitioners monitor risks of disease and epidemics generated by climate drivers.

42. The GCF also promoted initiatives aimed at the better pricing of climate risks. In Grenada, and in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), GCF resources were used to set up a water tariff that will generate price signals that factor in climate risk considerations, while providing resources to upgrade water infrastructure and promote efficient water use in the agriculture and tourism sectors.

Risk reduction

43. The GCF has provided loans and grants for risk reduction activities through its funding proposals across all result areas. For instance, the GCF supported the development of agricultural value chains in Zambia, in partnership with UNDP (FP072), with the aim of strengthening climate-resilient agricultural inputs and practices and provided smallholder farmers with alternative income sources. In a similar project in Rwanda, developed in partnership with the International Union for Conservation of Nature (FP167), the initial GCF financing was accompanied by commitments from local microfinance institutions and investors, leading to an effective mobilization of local financial sources.

44. Some GCF projects go further by designing mechanisms that would increase the certainty of the cashflows generated from climate-resilient activities. A GCF project in the Federated States of Micronesia (SAP020), for instance, aimed at fostering offtake agreements between farmers and local buyers in order to build the resilience of the local agricultural value chains. The GCF project with the World Food Programme in Senegal (FP049) "Building the climate resilience of food insecure smallholder farmers through integrated management of climate risk" supported the rural population in building up savings by providing trainings on saving methodologies. These savings groups will save regularly, with the objective of providing small loans to the members later. The savings will provide a buffer that communities can use to invest in income-generating and climate-resilient activities.

45. GCF is actively supporting the deployment of innovative technologies for adaptation. For example, it supported a project in Colombia (FP182), in partnership with the Corporación Andina de Fomento, aimed at providing upfront financing for the adoption of digital agriculture, including artificial intelligence and big data platforms through a combination of grants and loans. In Guatemala (FP145), the GCF financed, in collaboration with Food and Agriculture

Organization of the United Nations (FAO), climate-resilient practices for staple crops and coffee to diversify income sources and enhance crop productivity for smallholder farmers. In Mongolia (FP077), the GCF and the Asian Development Bank financed activities aimed at addressing climate risk in the affordable housing apartment sector; the project supported the development of innovative financial instruments in the country to mobilize alternative financial sources.

46. The GCF also financed innovative ecosystem-based adaptation strategies in the context of many projects. For example, in collaboration with Kreditanstalt für Wiederaufbau (KfW) (FP122), GCF provided financing for the protection and sustainable management of coastal resources and the rehabilitation of degraded coastal ecosystems for ecosystem-based adaptation.

Risk retention

47. In addition to providing grants and debt financing for risk retention, the GCF has also acted as a junior equity investor in multiple transactions, effectively crowding-in investors for risk and early-stage projects addressing climate risk. The GCF contributed a USD 25 million first-loss tranche in the Acumen Resilience Agricultural Fund (ARAF), providing capital protection for senior equity investors. The principle is that the GCF and the senior investors will share any positive returns that ARAF will make, while providing climate-resilient finance on a pro rata basis; losses will be covered by the GCF's junior tranche.

48. In Pakistan, GCF financed the development of a pooled risk-sharing fund to deliver integrated adaptation and disaster risk management initiatives in collaboration with UNDP (FP018). In several countries in West Africa, via FP162 with IFAD, GCF helped governments to evaluate and better channel national and subnational resources towards risk-pooling vehicles (such as African Risk Capacity Group) and to develop mechanisms to deploy risk financing via pooled and retained resources.

49. The GCF has supported the mobilization of resources to address climate risk at a national scale. In Madagascar, in collaboration with Conservation International (FP026), the GCF supported the development of a National Climate Change Trust Fund for to promote climate resilience in the agriculture sector. The same project supported the issuance of a climate bond, in which proceeds targeted the promotion of climate resilience in the agricultural sector.

Risk transfer

50. Through its AEs, GCF grants have financed activities directly related to climate risk transfer, such as the design of weather index insurance. GCF has supported projects that deploy parametric insurance for drought risk in Chad, Burkina Faso, Madagascar, Mali, Mauritania, Senegal, United Republic of Tanzania and Zimbabwe. Pilot schemes developed by the AEs IFAD and World Food Programme (in partnership with African Risk Capacity) provide farmers and agropastoralists parametric insurance against crop failure due to rainfall variability and compliment resilient asset creation, alternative livelihoods, and climate-smart agriculture activities. GCF has also helped national disaster management agencies, such as in the Philippines, to implement forecast-based financing instruments to be deployed in climate events. In the case of the Private Sector Facility project with CRDB Bank Plc, GCF supports the AE in providing agricultural insurance for the bank's borrowers and protecting the borrowers and the finance institution against loan default due to climate variability.

Case study 3 FP179: Tanzania Agriculture Climate Adaptation Technology Deployment Programme (TACATDP)

Approved at B.30, GCF financing of USD 100 million in grants, loans and guarantees
Accredited entity: CRDB Bank Plc (United Republic of Tanzania)
Executing entities: CRDB Bank Plc and others.

Agriculture is essential to the United Republic of Tanzania's economy and the livelihoods of its people, accounting for 27 per cent of its gross domestic product and 67 per cent of jobs. However, the agriculture sector is particularly vulnerable to the adverse effects of climate change, including extreme weather events. Climate change and changing temperature patterns have already contributed to a decline in agricultural productivity and to the share of the sector's contribution to national economic growth – losses that are being exacerbated by weather-related risks. With agriculture playing an integral role in the lives of the country's most marginalized and vulnerable populations – 80–90 per cent of agricultural land is held by smallholder farmers and 98 per cent of economically active rural Tanzanian women are engaged in farming – the adverse effects of climate change will disproportionately harm those groups and hamper the country's sustainable development.

This programme will strengthen resilience of the United Republic of Tanzania's agriculture sector by facilitating access to agriculture climate adaptation technologies. This will be achieved by establishing a lending and de-risking facility that will make these technologies affordable to local farmers and agricultural enterprises, accompanied by technical assistance and support from government authorities. The project will also strengthen awareness of climate threats and risk-reduction processes among governments, industry actors and the financial sector. The programme has two components. A first component comprises three interrelated activities to support the deployment of several blended finance financial instruments – such as loans, a guarantee credit-enhancement facility, and the consideration of a parametric insurance scheme for smallholder farmers – to de-risk agricultural investments by offering new financing products at an affordable price, while creating and demonstrating the viability of a deep market for adaptation technologies in the United Republic of Tanzania. A second component of technical assistance and capacity-building exercises will be implemented to complement and support the project results achieved thus far.

V. Next steps

51. The Secretariat will continue its efforts to diversify the application of financial instruments, as outlined in the multiple efforts above, including but not limited to implementation of the private sector strategy (B.32) and the approach and scope for providing support for adaptation activities (B.33) and will continue to inform the Board regarding progress on diversifying financial instruments for addressing climate risk, including parametric insurance for climatic events.

52. Additionally, the use of appropriate concessionality will continue to be tailored to incentivize and facilitate the implementation of investments addressing climate risk while minimizing market distortions and the potential disincentives to private investment. Local currency lending can raise potential trade-offs between concessionality and the cost of hedging of foreign exchange risk. Such trade-offs related to concessionality can also arise, more acutely, in the context of GCF support to relevant to insurance. In this context, the Secretariat will continue work with AEs and NDAs to provide access to expertise and capacity to financial

intermediaries and implementing entities, as well the optimal risk sharing between public and private entities.

53. The Board may wish in the context of decision B33/14 to consider the challenges and potential issues raised in this paper on efforts on diversifying its selection of financial instruments for addressing climate risk including parametric insurance for climatic events and allocate additional resources to the work tasked as part of the Review of the financial terms and conditions of the Green Climate Fund financial instruments (B33/14 paragraph f).

54. Additionally, the Board may wish to consider updating the initial fiduciary standards and specialized fiduciary standards for the inclusion of standards related to entities providing insurance financial products. The Initial Fiduciary Principles and Standards of the Fund (Decision B.07/02, Annex II) include specific duties for grant award mechanisms, as well as on-lending and blending. It does not include specific provisions or duties for insurance products or potential specifications relative to local currency lending solutions.

Annex I: GCF support for the formulation of national adaptation plans (NAPs) and other adaptation planning processes

Country	Readiness Project Title
Bhutan	Preparation of the National Adaptation Plan (NAP) for Bhutan with a focus on implementation of comprehensive risk management in the water sector
Bhutan	Building Capacity of Bhutan's National Stakeholders to Address Climate and Disaster related Risks.
Colombia	Strengthening the business sector in climate risk management for efficient use of water resources
Haiti	Integrating climate change risks into national development planning process in Haiti
Saint Kitts and Nevis	Capacity Building to Facilitate Climate Resilience in Disaster Risk Management and Private Sector Access to Climate Financing in St. Kitts and Nevis
	Readiness to support the development of a Credit Risk Abatement Facility (CRAF) for CARICOM States
Lao People's Democratic Republic	Advancing Lao PDRs National Adaptation Plan NAP through Climate Change Vulnerability Assessments for Disaster Risk Management
Mali	Strengthening the integration of climate risks in development planning for implementation of low-carbon & climate-resilient priorities in Mali
Togo	Strengthening National and Regional Capacities for Effective Climate Risk Management in Togo
Tunisia	APIA supporting project for the conceptualization and the installation of an E/S risk management unit for the access to climate finance
Tunisia	National Adaptation Plan: Advancing risk-informed development and land-use planning in Tunisia
Albania	Advancing Albania's planning for medium and long-term adaptation through the development of a National Adaptation Planning (NAP) process
Armenia	National Adaptation Plan (NAP) to advance medium and long-term adaptation planning in Armenia
Azerbaijan	National Adaptation Plan (NAP) Support Project for adaptation planning and implementation in Azerbaijan
Burkina Faso	Mainstream Adaptation into Subnational Planning, Strengthen Institutional Frameworks, and Develop Financing Strategy and Project Concept Notes for Burkina Faso's NAP Implementation
Belize	NAP-Enhancing adaptation planning in the coastal zone and fisheries sector of Belize
Bhutan	Preparation of the National Adaptation Plan (NAP) for Bhutan with a focus on implementation of comprehensive risk management in the water sector
Chile	Update of the National Climate Change Adaptation Plan NAP in Chile

Democratic Republic of the Congo	Medium term investment planning for adaptation in climate sensitive sectors in the Democratic Republic of Congo: Advancing the NAP process
Guinea-Bissau	Establishing a National Adaptation Plan (NAP) Process for Guinea-Bissau
Jamaica	Towards a comprehensive national adaptation planning process in Jamaica - Ja-NAP
Kyrgyzstan	Advancing development of a National Adaptation Plan (NAP) process for medium and long-term adaptation planning and implementation in the Kyrgyz Republic
Cambodia	Establishing an Evidence-Based National Adaptation Plan NAP process at National and Subnational Scales in Cambodia Phase 1
Lao People's Democratic Republic	Advancing Lao PDRs National Adaptation Plan NAP through Climate Change Vulnerability Assessments for Disaster Risk Management
Republic of Moldova	NAP-2: Advancing Moldova's National Climate Change Adaptation Planning Process
Montenegro	National Adaptation Plan (NAP) to advance medium and long-term adaptation planning in Montenegro
Somalia	Support for Establishing a National Adaptation Plan (NAP) Process for the Federal Republic of Somalia
Tajikistan	Enabling an Effective National Adaptation Plan (NAP) Process for Tajikistan
Tuvalu	Development of Tuvalu's National Adaptation Plan (NAP) to advance medium and long-term adaptation planning
Uzbekistan	Sector-driven National Adaptation Plan (NAP) to advance medium- and long-term adaptation planning in Uzbekistan
Viet Nam	Viet Nam National Adaptation Plan (NAP) Development and Operationalisation Support Project
Zambia	National Adaptation Planning for Climate Resilience (NAP4CR)-Zambia

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