

The Prospects for Parametric Catastrophe Bonds in Africa



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Catastrophe bonds are a dominant product among Insurance-Linked Securities (ILS). Over recent years, their use has grown tremendously around the world. In this article, **Kirill Sav-rassov**, **Dr. Urs Ramseier**, and **Dr Timothy Nielander** co-author a discussion on the prospects of Cat bonds in Africa in the light of the increase in catastrophe losses, high cost of re-insurance, and a growing desire for alternative solutions that can close the persistent protection gap and deliver faster claim settlements. The discussion considers the underlying social and economic challenges occasioned by natural disasters, the need to de-risk, the constraints and opportunities for parametric catastrophe bonds, and the role and education of key stakeholders.

The geostrategic and macroeconomic shocks impacting African countries in the 21st century are exacerbated by constantly increasing damage from natural disasters, including those associated with climate change. The global “protection gap”, a 56% difference between economic and insured losses in 2022, is truly wide and rising disproportionately to 95+% for some nations¹ where natural disasters have crippling economic and social impacts on vulnerable groups.

Africa is responsible for only a fraction of global greenhouse gas emissions but suffers disproportionately from climate change. This is harming food security, ecosystems and economies, fuelling displacement and migration and worsening the threat of conflict over dwindling resources, according to a 2023 report from the World Meteorological Organization (WMO).

The rate of temperature increase in Africa has accelerated in recent decades, with weather - and climate-related hazards becoming more severe, yet financing for climate adaptation is only a drop in the ocean of what is needed. More than 110 million people on the continent were directly affected by weather, climate and water-related hazards in 2022, causing more than US\$ 8.5 billion in economic damages. There were a reported 5000 fatalities, of which 48% were associated with drought and 43% resulted from flooding, according to the Emergency Event Data-base, but the true toll is likely to be much higher because of under-reporting².

Protection gaps exist in both emerging and developed markets. However, the issue is far more important for the African continent, where like in other emerging

regions, the cost of disasters is not just measured in the deaths and injuries that they cause, but also in their long-lasting economic impact on survivors and countries. Natural disasters there do not just destroy homes, factories, shops, and fields; they can altogether annihilate years of economic growth, which is essential for the low- and mid-income countries. Indeed, they can erase years of development gains across the full range of sustainable development goals.

In Africa, there are a number of reasons why de-risking economic activity is so important and heavy reliance on the agricultural sector is one of them. In sub-Saharan Africa it constitutes around 20 to 25% of GDP and, according to the International Labour Organization, half of employment is related to the agricultural sector. With such a dependence, and in case of extreme drought or flood, for example, crops are rendered useless. The knock-on effect from one bad year could last a number of years impacting, amongst others, seed stocks, soil health and community security. Having financial instruments in place that can respond quickly, helps governments strive for sustained development by limiting negative impacts and downturns in GDP.

When disasters of all types strike, immediate steps need to be taken to protect survivors and provide them with temporary shelter and emergency food and clothing. In the medium and long term, communities must be rebuilt, places of employment and local infrastructure reconstructed. Ideally, this should be done in a manner that is resilient to future disasters. All of these interventions cost money. For this reason, disaster risk finance, especially when it comes to post-event response, managed through pre-arranged disaster finance, plays a vital role for economies across the globe, including Africa. Mobilizing relief efforts quickly after a disaster can limit long-term economic losses but, unfortunately, many countries have limited access to finance for immediate response.

Over the last decade, catastrophe insurance markets have introduced important innovations in disaster risk finance through the use of Insurance-Linked Securities (ILS) which can include regional, sovereign or sub-regional parametric catastrophe bonds (“Cat Bonds”) in

particular. These innovations provide new or improved funding sources to enable sovereign governments to respond and recover after disasters strike. Given the urgency and scale of the challenges many countries face, there is a great opportunity to scale up both categories of disaster risk finance to protect development gains and accelerate social and economic development activities. In a connected world community, this is possible; with tailored disaster risk finance accessing capital markets that are ready to support development programs by exposing investment capital to help de-risk natural disasters. This activity helps to stimulate stable economic and social growth, which then creates a cycle of improved access to capital for drivers of the economy such as small and medium size enterprises including, importantly, agricultural production, a cornerstone of African expanding economic stability.

Sovereign risk pools have a successful track record of issuing and maintaining processes that access disaster risk finance. These processes are able to trigger pay-outs that de-risk economic and social development gains. This type of protection is now used with increasing frequency by single states and through regional pooling schemes available to nearly 100 countries across the world.

Any country which considers disaster risk transfer in the form of parametric catastrophe bonds to access a pool of finance that is many times larger than what traditional insurance markets can provide, will benefit from a number of advantages. These include guaranteed access to funds for recovery (up to agreed limits for well-defined transparent trigger), budget planning certainty, no payback obligation (as are typically attached to disaster loan packages offered by multi-lateral development banks) and, lastly, diversified source of funding to cope with the impact of natural catastrophes.

Also, the use of the ILS mechanisms can help promote more effective solutions to address the low insurance penetration issue in Africa. Such instruments also allow a government to spread the cost of disaster response and prevention over several fiscal years, rather than creating a massive demand for response funds in a particular year when one or more disasters occur. In

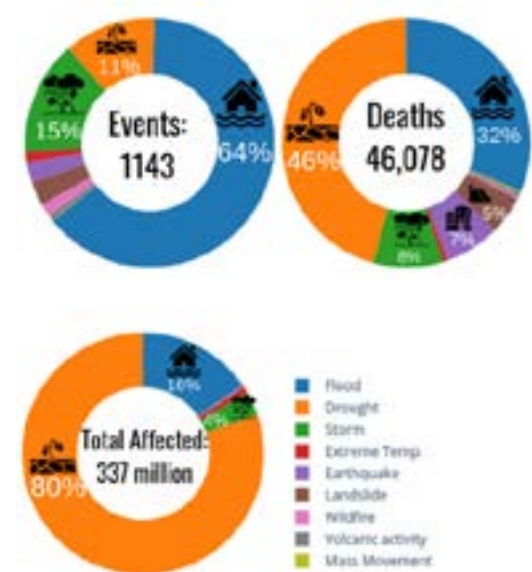
¹ AON: *Weather, Climate and Catastrophe Insight 2023*

² WMO - *Africa suffers disproportionately from climate change: <https://public.wmo.int/en/media/press-release/africa-suffers-disproportionately-from-climate-change>*

addition, funds flowing from the international financial markets, create a positive macroeconomic boost to the economy of the whole country. This boost reduces dependence on traditional foreign aid that can provide a band-aid but may not facilitate long-term economic and social gains.

According to a staff climate paper published by the International Monetary Fund (IMF) in July 2022, catastrophe bonds are one of “the most prominent innovations in the field of sustainable finance in the last 15 years,” but the organisation believes more use of them is needed to cover burgeoning catastrophe and climate risks (Artemis³).

Africa is a territory which, rather incredibly, has not accessed catastrophe bonds issued in the market. There are a few reasons. It is partially because they are difficult to underwrite, due to a variety of factors including the need for dependable and comprehensive data on risk profiles. Neighbouring regions/countries may have non-correlated exposure to various disaster risks. A country may be exposed to drought, but the country next door is exposed to flood - and both of them may be exposed to cyclone risks. What about single peril “vanilla parametric” catastrophe bonds to start with?



Source: Disasters in Africa: 20 Year Review (2000-2019)

What we have started to see over the last few years is the use of parametric insurance products, available in general in Africa. The reason parametric insurance is popular in emerging markets is that it provides value, using existing underwriting exposure and claims data. Countries covered can utilise independent weather stations or satellite data, which are completely objective. The only requirement for catastrophe bonds to be successful, in that case, is to have a pool of dedicated investors who are comfortable with the investment coupon and the simplicity and transparency of the disaster pay-out trigger. The bond is actually pegged to objective metrics, unlike a traditional indemnity policy which relies on historical claims records.

It is expected that exposure data will be even more comprehensive and dependable in future, using satellite and other data collection methods and machine learning to fill in the gaps and create even better systems to enable the financing of disaster risks.

From an investor’s perspective, these instruments are attractive because the returns are not correlated with the broader financial markets such as equities and interest rates. The global Cat Bond market is fast growing, with a volume exceeding US\$ 40 billion in 2023. Cat Bonds are typically purchased by specialized investment managers for dedicated fund vehicles that are distributed to institutional investors such as pension funds, sovereign wealth funds and family offices. Currently, the Cat Bond market is heavily focused on US hurricanes and earthquake exposure. Cat Bond fund managers welcome any possibility to diversify their portfolios away from these US exposures, hence the demand from investment funds to buy Cat Bonds with exposures in Africa is significant.

There is a growing segment of financial investors with a clear impact focus. For these investors, risk/return is not the only consideration when making an investment decision. They have high standards when it comes to Environment, Social impact and Governance (ESG). It is important that the criteria can be measured

and improvement over time can be achieved. In the context of disaster relief, investors for example want to understand how many additional people or households get access to protection against natural catastrophes by the issuance of a Cat Bond.

Obstacles for African catastrophe bonds are the relatively high issuance costs and the need to achieve fair risk/reward pricing suitable for both issuers (called sponsors in ILS jargon) and investors. The closure of an education gap in insurance-linked securities is fundamental. It not only raises the comfort levels of public officials and development funders -- to leverage private sector investments in a fair allocation of risk --but is also necessary for the overall public benefits associated with improved economic growth and stability.

The first issue can be addressed with existing grants schemes available from Singapore or Hong Kong authorities or the deepening “debt-for-climate” initiative from IMF, and also the establishment of early dialog with investors for a tailor-made mutually acceptable solution.

As for the subsidy for the actual bond servicing (coupon payments), the involvement of multi-lateral organizations or development banks would be essential. From the perspective of an international organization: if there is a devastating natural catastrophe in a poor country, the affected nation will require urgent help with emergency finance, and the international community will provide it one way or another. So why not help the exposed country or region to cover part of post-disaster risk finance through prearranged financing and transfer to the capital markets via a subsidy for the catastrophe bond coupon?

The African Risk Capacity and other regional sovereign risk pools leverage public-private development finance by blending access to public and private finance to provide parametric insurance – with prompt pay-outs for disaster response activities. This leverages private capital markets to enlarge the funding available to respond to disasters, using a market-based solution to help protect vulnerable populations, stranded in the

protection gap. Neither sector has sufficient knowledge and capital to address the gap entirely; particularly in the light of increasing climate related disasters.

The notion that private sector’s profit motives are at odds with public benefit and purpose, may be outdated. On closer inspection, one may conclude that the public sector interest in expanding economic and social opportunities to create stable employment and advancement, requires a healthy private sector. This can then be leveraged to balance private sector incentives with public objectives in a partnership ecosystem. This concept may be reframed as seeking connected interests, that must be de-risked in order to encourage innovation and the creation of new technology, new exploration and expanding entrepreneurship—thereby leading to educational and employment opportunities. In turn, this creates tax revenue, supporting the expansion of social programmes and public infrastructure.

The use of catastrophe bonds and broader ILS products has the potential to close the protection gap by leveraging public and private sector strengths, informed by better data and modelling systems to gauge the cost of addressing risk. However, education and collaboration are key.

For the education gap, ILS concepts must be simplified and placed in the context of de-risking social and economic development programmes. The topic of ILS arises in global fora and is constantly mentioned in each and every conference where matching capital to address risk is raised in fireside chats, keynote speeches and panel discussions⁴. Even people at big banks and non-specialist asset managers may struggle to understand ILS concepts, benefits and usefulness. However, the priority should be to inform politicians and the ultimate decision-makers.

Here is an interesting observation: if you put an institutional investor or asset manager, an in-surer and, say, a government official dealing with large natural disasters into one room, they will all have an interest in the use of ILS products, but it will be from completely

³ <https://www.artemis.bm/news/cat-bonds-one-of-the-most-prominent-innovations-in-sustainable-finance-imf/>

⁴ <https://www.artemis.bm/news/ils-asia-2023-education-still-critical-in-relatively-untapped-region/>

different perspectives. Systemic education is key in order to harmonise understanding.

Regulators and insurers in many developing countries think that ILS products are extremely complex to utilize for public benefit. However, this comes from a need for clearer understanding—to demystify investment motives and see how these align with public objectives, through transparent information exchange. With a proper educational effort, the introduction of ILS and alternative risk transfer products could speed up the closure of the growing protection gap, with capital and information efficiency.

Finally, on the collaboration front, it is important to have pan-African strategic partners with continental mandates and an understanding of catastrophe reinsurance and the potential of ILS. Institutions like Africa Re, African Risk Capacity and the African Development Bank are ideal examples of such strategic partners that can facilitate the use of ILS to benefit the continent and elevate its place in global cooperation.

Phoenix CRetro is a structuring facilitator and reinsurance broker, focused on ILS investors and the introduction of Alternative Risk Transfer solutions for developing nations. The company is also the convener of the first global “Fundamentals of Insurance-Linked Securities” executive education and certification programme.

Twelve Capital is an independent investment manager specialising in insurance investments for institutional clients with US\$4.5billion of assets under management as of October 2023. The company is also a leading provider of capital to the insurance and reinsurance industry.

GP3 Institute Foundation is a non-profit network of experts providing technical support for development programmes ranging from disaster risk finance to education, health, nutrition, and security. The GP3 Network supports public-private cooperation initiatives and their financing mechanisms, including technical assistance to sovereign risk pools such as the African Risk Capacity.

Reflections on the Role of Credit Rating Agencies



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Introduction

International credit rating agencies (“rating agencies”) have acquired increased influence over the past few decades by providing lenders and creditors with opinions about the creditworthiness of entities, including sovereigns thus giving them a very important role in international financial markets. As professionals, we all agree on the fundamental importance of such institutions; that in addition to primary control systems such as risk management, internal and external audit, and regulatory inspections, they provide creditors, shareholders, and other stakeholders with indicators about the risks, strengths or weaknesses of entities. Nevertheless, critical discussions and debates have always surrounded the use of and dependence on credit ratings in Africa. These debates intensify when reliance has been placed on these ratings, whether rightly or wrongly, and the associated rated entity finds it more difficult to conduct business or even goes under when its ratings change.

This paper will explore some of the benefits and drawbacks of credit ratings, from the perspective of African entities, particularly those in the (re)insurance industry. The paper

also discusses some tips for African (re)insurance entities when dealing with rating agencies.

A brief overview of credit rating agencies

The global Credit Rating Market is dominated by three companies, often referred to as “the big 3”, known to control around 95% of the global rating business. These companies are: S&P Global Ratings (S&P), Fitch Ratings (Fitch) and Moody’s Investors Services (Moody’s). Moody’s and S&P are headquartered in the United States and are known to dominate 80% of the global ratings market. Fitch is headquartered in the United States and the UK and is known to control approximately 15% of the global ratings market.

S&P, Moody’s and Fitch tend to be specialized in rating countries, capital markets, international debts, bonds and banks. When it comes to the insurance market in particular, the largest rating agency is AM Best, though the others mentioned do rate insurance players as well. AM Best is known to be the only rating agency that focuses solely on the insurance industry.

In Africa, there is only one local rating agency that has managed