

Innovative Finance in Action: Volcano Catastrophe Bond

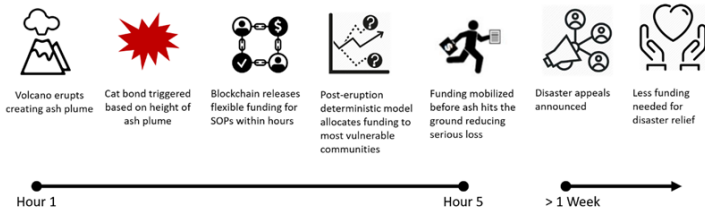
Disaster Preparedness and Innovative Finance

Rapid delivery of capital to disaster-stricken communities supports the best possible humanitarian responses. Traditional funding cycles do not respond effectively enough in the wake of catastrophic events such as volcanic eruptions. The Volcano Catastrophe Bond (CAT bond) utilizes technology, such as blockchain, and blends it with mainstream risk-transfer projects, like Insurance Linked Securities (ILS).

By linking the blockchain with ILS, humanitarian organizations can anticipate future losses while simultaneously taking advantage of capital markets and decreasing their exposure to perpetual disaster and conflict risks.

This multi-lateral CAT bond is the first of its kind covering volcanos and utilizing varied modelling and structuring approaches to incorporate anticipatory action.

CAT Bond Value Chain



The volcano CAT bond is placed on an ILS blockchain, making the transactions cost-effective for the aid agency and enabling free trade among ILS investors. The blockchain was established by UK-based Replexus, providing an alternative to traditional clearing, documentation, custodial, and administrative services.

Benefits of this structure include:

- Reduces costs by nearly 400.000 USD per issue compared to regular settlement systems.
- Investors hold their own securities rather than use a custody bank.
- Eliminates secondary market transaction costs.

CAT Bond Structure: Blockchain and ILS

Volcanos Covered by the CAT bond



The Danish Red Cross, together with Mitiga Solutions, Barcelona Supercomputing Centre, Replexus Partners, Danish Ministry of Foreign Affairs, and UK Government's Department for International Development (DFID) have sponsored, developed, and placed the first volcano parametric CAT bond. Ten volcanoes have been selected for coverage in partnership with Red Cross/Red Crescent Societies in Ecuador, Indonesia, Chile, Colombia, Guatemala, Mexico, and Cameroon.

Proximity to vulnerable populations was a key criterion in volcano selection. At least 700.000 people live within 100km of each volcano. A short-term, deterministic impact model from risk management partner Mitiga generates hazard scenarios which, in conjunction with anticipatory data, can be used to forecast the probability of an eruption. The CAT bond is anchored through partnerships between modelling, scientific, administrative, financial, and humanitarian organizations. These partnerships allow for the CAT bonds' specific parameters while not sacrificing security nor rapidity in the response.

Multi-Faceted Impacts

Get Involved

CAT bonds reduce the sponsor's cost coverage and attract investors by covering risks uncoordinated with the market, interest rates, or credit and crowd-sourcing insurance coverage. The volcano CAT bond is more streamlined than other solutions, allowing for freedom on the part of investors. It accounts for the anticipatory research done on volcanoes and the cooperation needed to properly link funding with forecasting. This CAT bond, through its unique structure and targeted purpose, can serve to quickly respond to the immediate risk of volcanic eruption. Reach out to see how similar models can help you.

Watch our short video summary of the CAT bond for an overview of its structure and benefits.

[Volcano Catastrophe Bond Video](#)

Contact Us

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