

Insurance helps Protecting Communities and Businesses from Extreme Events



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Storms, floods as well as droughts will continue to impact the lives of thousands of people worldwide. Less than half of weather and natural catastrophe losses are insured, especially in emerging markets. With the climate changing to unprecedented extremes, making communities resilient and absorbing shocks with insurance has never been more important. Companies such as CelsiusPro are specialized in collaborating with stakeholders and designing innovative and powerful insurance schemes. Pioneering insurance schemes such as the Kenya Livestock Insurance Program (KLIP), the InsuResilience Investment Fund (IIF) and parametric drought insurance in Germany make communities, businesses and governments more resilient.

Over the last decades, losses from natural catastrophes have been growing. Also, the number of catastrophe events are increasing. With many more people and businesses on the planet, with growing cities and climate change, this trend is set to continue.

The year 2018 was the fourth warmest year ever registered. With climate change, temperatures are rising, drought conditions are prolonged and wildfires are occurring more frequently and becoming more widespread. The 2018 summer heat wave led to severe drought conditions in central and northern Europe. Climate change also leads to heavy rainfall events that occur more often and become more severe.

Extreme events are more frequent and the trend is to be continued

In 2018, economic losses from natural catastrophes worldwide were USD 155 billion (Swiss Re Institute, 2019). Storms, floods, droughts as well as earthquakes can heavily impact communities, cities and countries. This year, monsoon rains have been extraordinarily strong in South Asia. Torrential rain, floods and landslides have killed a thousand of people, displaced more than a million people and destroyed infrastructure, agricultural crops as well as livestock.¹

Less than half of weather and natural catastrophe losses are insured, especially in emerging markets. The reasons for the underinsurance are manifold. On consumer side, there can be low risk awareness and the expectation that it is the government's responsibility to step in after a calamity. If a peril is not entirely understood and risk assessment is uncertain, insurers might not provide insurance coverage.

Insurance is a powerful adaptation tool for climate change

Adaptation to climate change is getting more important every day. Rural and urban communities need to combine different measures to adapt to climate change. Insurance is an important part of a comprehensive adaptation strategy. It is complemented by risk prevention and risk mitigation measures. National and local decision makers, such as finance and agricultural ministries, mayors and CEOs, need to understand the climate risk for their region and design an appropriate adaptation strategy. For this purpose, the following two key questions have to be addressed:

- How much property or agricultural value is at risk from climate events?
- How can a powerful insurance scheme for protecting communities and businesses be set up?

Companies such as CelsiusPro are specialized in answering these questions and

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design innovative and powerful insurance schemes.

For farmers, effective adaptation measures range from soil conservation techniques to drip irrigation as well as drought resistant seeds. And yet, no farmer or community can afford to prevent from the very extreme events. Especially for rare events, insurance provides effective protection for livelihoods and communities.

Parametric insurance extends the boundaries of insurance and offers quick payout

Leveraging latest technology helps consumers to get faster and better financial protection. It also helps insurance companies to better understand and price weather and climate risks. The insured community can recover much faster after a catastrophe. Insurance helps to secure development gains and ensures that future growth is sustainable.

In contrast to conventional insurance, parametric insurance pays a fixed amount upon the occurrence of a triggering event. The payout can be based, for instance, on the amount of rainfall, the windspeed or a vegetation index. With the help of a parametric insurance product, loss adjustment does not need to take place. As soon as a predetermined threshold is reached, the policy is triggered and a payment is made.

Advantages of parametric insurance are manifold. With the help of parametric products, risks that are normally not insurable can be insured, and thus people and businesses can be included into the financial system. Very low administration costs also help to make this form of insurance attractive to small scale farmers and low-income segments. In the context of microinsurance contracts, parametric policies are often sold through mobile technologies or as an add-on to micro-finance services. Moreover, people that live in remote areas can get financial protection.

State-of-the-art online technology enables fast and scalable distribution to farmers

CelsiusPro's clients include national and regional governments, agricultural ministries, development organizations, consulting firms, (re)insurance companies, brokers as well as businesses (SMEs, corporations and farmers). The company uses big data for risk analysis and insurance product design. CelsiusPro provides a white label platform to insurers and financial institutions to efficiently offer climate insurance products to existing and new customers. The white label platforms are fully automated front-to-back solutions enabling automated pricing, policy generation, policy lifecycle management and loss calculation.

Distribution is key for insurance companies to reach as many small-scale farmers and remote or poor people as possible. The insurance is distributed through farmer cooperatives, micro finance insti-

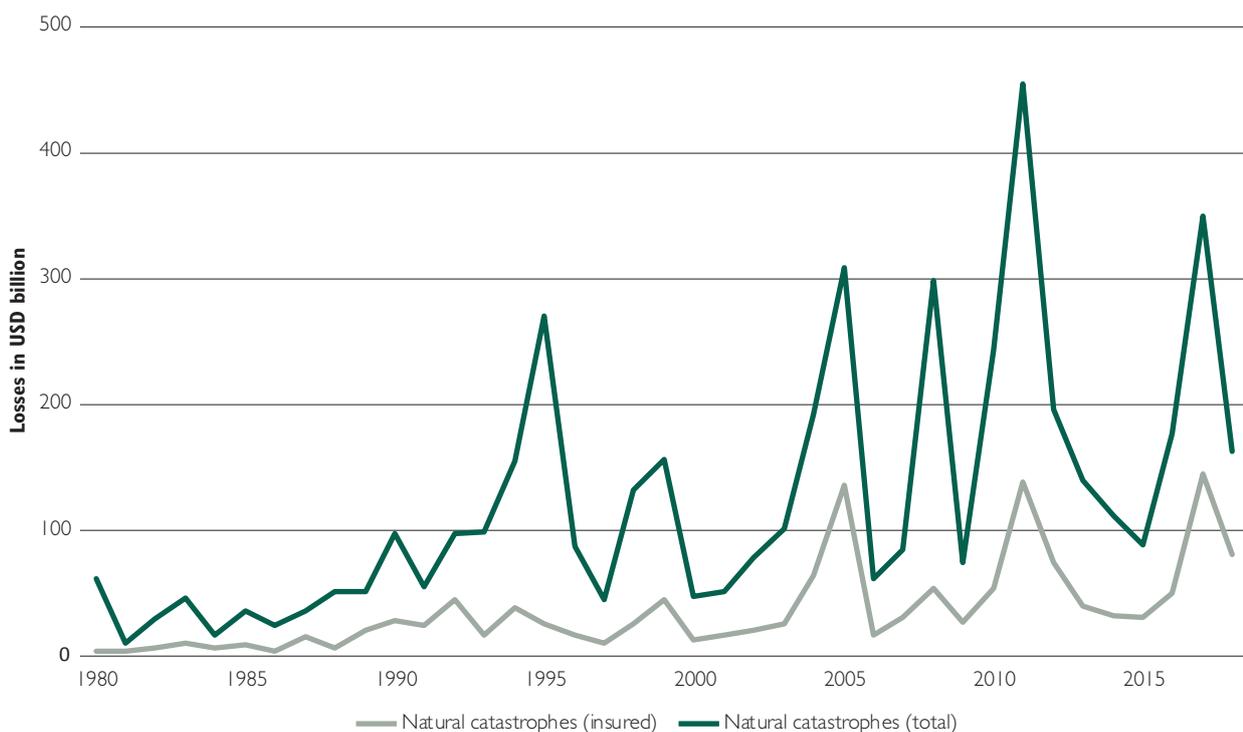


Fig. 1: Worldwide losses from natural catastrophes (green) are on the rise. Less than half of these losses are insured (grey).

(Source: Swiss Re Institute, www.sigma-explorer.com)

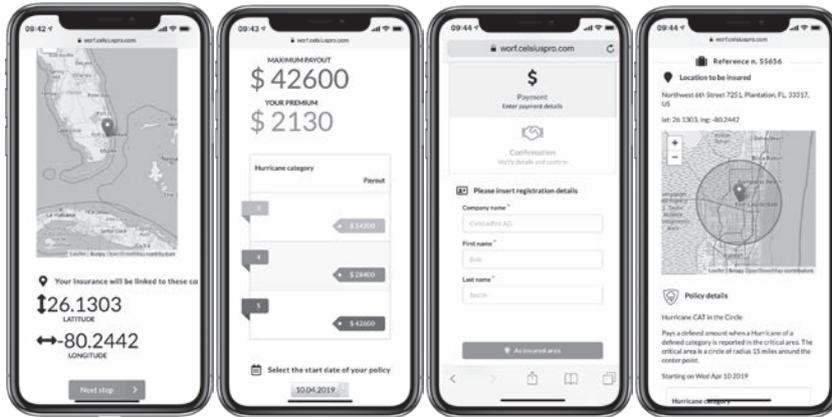


Fig. 2: A hurricane insurance policy is only four clicks away. Thanks to state-of-the-art online technology, distribution is fast and scalable.

tutions, input dealers, mobile providers and NGOs. In order to scale up and keep costs as low as possible, technological solutions, such as a front-to-back platform accessible to all stakeholders, are essential.

The sales experience of parametric products can be highly user friendly and very fast. Through an online website, a customer can buy a hurricane protection in only four clicks. Parametric insurance offers benefits for all stakeholders. For customers, parametric insurance can cash out for immediate emergency needs. For brokers and distributors, the sales process is fully automated with minimal manual work and errors. Insurers and reinsurers can extend their offered protection to uninsurable risks and diversify their portfolio.

KLIP is a pioneering scheme in protecting livestock farmers in Kenya

A pioneer in protecting livestock farmers is the Kenya Livestock Insurance Program (KLIP). KLIP applies satellite-based index insurance to protect semi-nomadic herders in Northern Kenya registered under the Hunger Safety Net Programme (HSNP). Payments are triggered to vulnerable farmers before the famine strikes. Satellite

images of grazing land, a lack of greenery or yellow land indicate failing crops. Insurance payouts can thus help to feed people and livestock before farmers need to sell their livestock and move to cities. Payments are usually delivered through prevalent mobile money accounts and recipients can purchase emergency animal feed and water. Insured farmers get free protection for five cows or 50 goats and sheep, fully funded by the Kenyan government. Local insurers offer additional coverage for a premium. In February 2017, 12 000 pastoral households received nearly USD 2 million due to a lack of rains in the short rain season.

InsuResilience protects poor and vulnerable people from extreme weather events and natural catastrophes

The InsuResilience Investment Fund (IIF) is an initiative by the KfW Development Bank, on behalf of the German Ministry for Economic Cooperation and Development (BMZ). With a target size of more than USD 250 million in funds, it reduces the vulnerability of low-income households and micro, small and medium enterprises worldwide. The fund is open for private investors. Its investments are managed by BlueOrchard Finance and its technical assistance by CelsiusPro.

The fund offers private debt as well as private equity investments and is complemented with technical assistance and premium support. IIF's technical assistance supports the investee companies with insurance product design, marketing and distribution. An important pillar is the capacity building of key staff, market stakeholders and customers.

German farmers safeguard their income with the help of drought insurance policies

Driven by the severe drought in 2018, more and more farmers in Germany

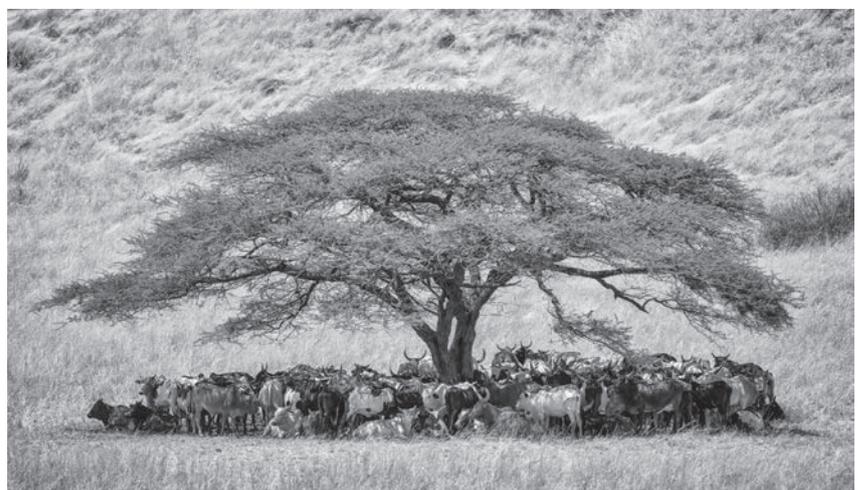


Fig. 3: KLIP is a pioneering scheme in protecting livestock farmers in Kenya. Insurance helps to feed people and livestock before the famine can widely spread.

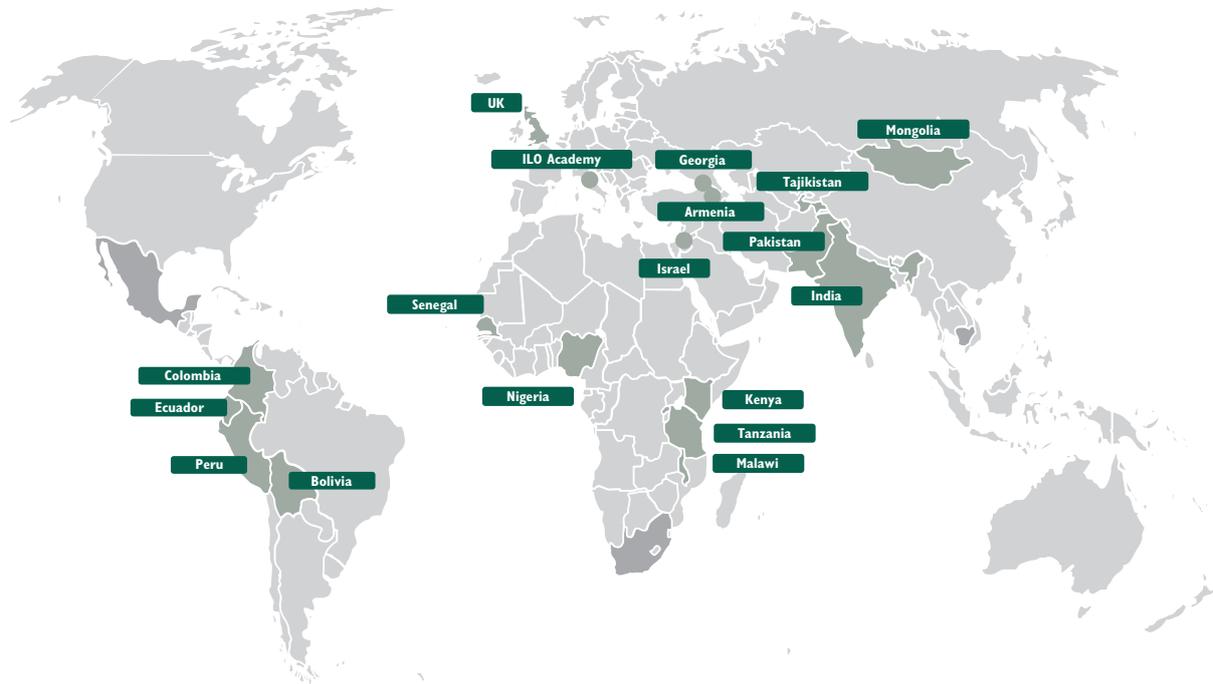


Fig. 4: The InsuResilience Investment Fund (IIF) has invested in more than 25 companies and projects in order to protect poor and vulnerable people from climate events.

have looked for insurance protection. Since a couple of years, CelsiusPro has worked hand in hand with German insurance companies offering parametric drought insurance solutions for the agriculture sector. There are different insurance products offered by the insurance companies, which illustrates the variability of index-based insurance solutions. In one case farmers receive a payout when the reported yield is under a pre-agreed threshold. This solution is based on agricultural yield monitored by the Federal Statistical Office of Germany (Statistisches Bundesamt). Yield is available for more than ten crops and for more than 400 counties. In another case, farmers are compensated for drought impacts due to a lack of rainfall. Thanks to daily rainfall data, payouts to the farmers are fast and reliable. The insurance product is tailored to the farmers' needs by adjusting cover period and payout structure. Daily rainfall data is reported by more than 2000 weather stations across Germany run by the German Weather Service (Deutscher Wetterdienst). Time series

usually have a history of more than 20 years.

Another consequence of the 2018 drought is that the demand for the insurance product increased significantly in 2019 and forced the German government to reconsider taxation on insurance premiums. For 2020, the government plans to reduce taxes for drought insurance products from currently 19 percent of the premium amount to the same level as hail insurance which is 0.03 percent of the sum insured. This is a big relief for the farming community and will make drought insurance products much more affordable in the future.

Both technology and partnerships help to protect communities from climate threats

Storms, floods and droughts will continue to impact the lives of thousands of people worldwide. With the climate changing to unprecedented extremes,

making communities resilient and absorbing shocks has never been more important. Technology and insurance help to protect communities, businesses and governments from these increasing threats. Parametric insurance contracts are an excellent example for fully digitalized insurance solutions. Combining technological platform solutions with reliable data enables insurance to extend to more people and more threats. The new generation of insurance products are transparent, customer friendly and enable insurance companies to distribute to a critical mass.

Notes

¹ See European Commission, Emergency Response Centre (ERCC), https://reliefweb.int/sites/reliefweb.int/files/resources/ECDM_20190816_Monsoon_v2.pdf.

References

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