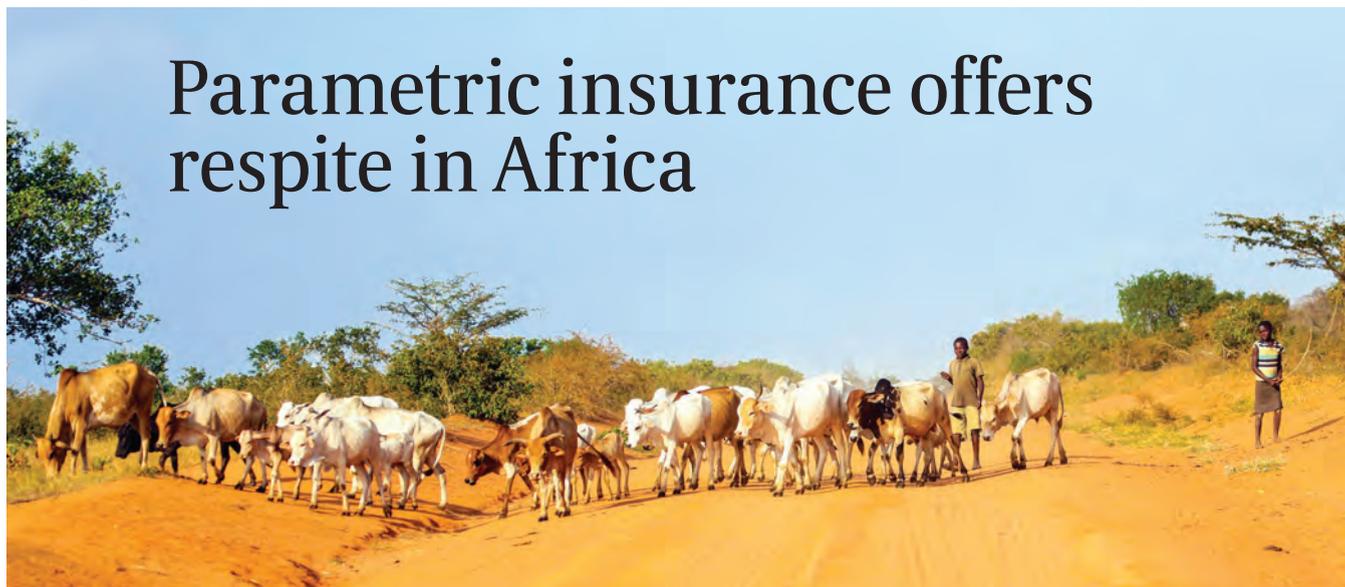


Parametric insurance offers respite in Africa



A parametric drought and livestock insurance programme in Kenya that leverages data from satellites have helped farmers cope with the impact of extreme weather conditions. While still in its infancy, the model could be replicated across the world to protect small-scale farmers, says

Mr Sebastian Glink of **CelsiusPro**.



Dealing with droughts is par for the course for farmers. In the past, droughts came in 10-year cycles, enabling herders to build up their herds and regenerate pasture and water resources to withstand the next drought. Over the past 30 years, however, the cycles have shortened to every five years, with the length of each drought becoming more prolonged than the last.

Climate change is being witnessed in many countries across the globe, and it particularly impacts poor people in developing countries. Moreover, it is precisely these population groups that are least resilient against such detrimental developments. Ever-shortening drought cycles leave pastoralists with less water and grass for forage, and they have nothing to fall back on when their animals die.

After Kenya's economy lost \$12bn due to drought-related effects between 2008 and 2011, its government, supported by the World Bank, International Livestock Research Institute (ILRI) and Swiss Re, introduced the first livestock insurance scheme in Africa in late 2015. The programme, operated by seven local insurers, applies satellite-based index insurance to protect semi-nomadic herders registered under the Hunger Safety Net Programme (HSNP).

As soon as drought conditions reach a certain threshold, pastoralists receive a lump-sum payment – usually delivered to prevalent mobile-money accounts – to purchase emergency animal feed and water, allowing the animals to survive. The trigger point for the insurance payout is deliberately set early enough to prevent animals from becoming too weak and ailing in the first place.

Dire straits

It has been found that 75% of livestock deaths in the Horn of Africa are caused by severe droughts, leaving herders and their families destitute and inciting conflict. This can currently be observed in Northern Kenya, where distressed nomadic herders migrate with their frail animals farther and farther south into more densely populated and privately-owned agricultural areas, which are also suffering from weak harvests.

The HSNP premiums, insuring five cattle or 50 goats and sheep per vulnerable and exposed household, are fully funded by governmental funds, while local insurers, managing the overall programme, offer additional top-up coverage for a premium. In late February 2017, after the failure of the short rain season, 12,000 pastoral households benefitted, when nearly \$2m were paid out. In contrast to conventional livestock insurance, this approach is cost-effective and sustainable, allowing herders to prevent the death of their animals. Moreover, it can be scaled up significantly.

Kenya expects to cover 80,000 households this year, and the programme has expanded to Southern Ethiopia as well. A drought-induced emergency has been declared across a number of Eastern, and to a lesser extent, Southern African countries, in particular across Somalia and Ethiopia, with war-torn South

COVER STORY – CLIMATE RISK

Sudan in sight. Livestock deaths and fire sales are slashing pastoralists' asset wealth, and bad harvests make recovery all the harder for small-scale farmers.

In parallel to the insurance scheme, the Kenyan government runs a 'destocking' programme, which pays herders for animals they would struggle to sell. It pays around EUR18 per goat or sheep and EUR130 per cow – about half the prices of healthy animals.

Making the programme commercially viable

Sustainable insurance relies on the laws of large numbers and on diversification – yet, local insurers run cluster risk and need to enrol herders from a broader geographic area so that a single drought will not clobber all customers at once. Making the programme commercially viable, and thus, eventually independent from government subsidies, will require a massive expansion of the scheme, including the enrolment of less poverty-stricken pastoralists who have witnessed the value of holding such insurance, and are in a position to self-finance premiums.

While still in its infancy, the model already generates meaningful improvements for poor pastoralists whose precarious lives are further impacted by climate-change-related effects that – if they continue to evolve – undoubtedly will require more fundamental adjustments in the economic activities of these population groups. But for now, the Kenyan Livestock Insurance Program (KLIP) is a high-impact role model. Many developing countries and donors are studying the Kenyan scheme, and we are seeing increasing interest in establishing similar insurance schemes.

Characteristics and design methodology of weather index insurance

Besides the KLIP in Kenya, different indices have been designed for new insurance products using various methodologies:

- Rainfall estimates from satellite; and
- Area yield.

The climate products cover typically drought and a rainfall deficit. All climate-based products are designed for multiple risk periods, including coverage for sowing failure and a dedicated coverage for each of the three phases of crop development. Triggers, exits and the duration of each phase are determined according to the historical climatic data crosschecked with best crop practices.

One of the first steps in the methodology to develop crop indices is to conduct an on-the-field survey to understand crop practices and the demand of beneficiaries, their socio-economic conditions, ability and willingness to pay for insurance. Focus-group meetings with potential clients are organised, during which they are able to share about the risks they are facing and their level of concern.

Index experts, in close collaboration with international research organisations, develop indices on the basis of historical data.

Once designed, product presentation workshops are organised with all stakeholders. A crop index insurance solutions is typically launched in the form of a pilot

programme, which enables modifications of the product's features if necessary. This participative methodology ensures the relevance and suitability of the product to fit the farmers' demand.

Every year, the products are improved with the help of field visits, focus groups and weather data analysis conducted by the index expert to compare the results of the index with the farmers' feedback and the rainfall data.

Distribution and organisation mechanism

Distribution is usually done before the rainy season via farmer cooperatives, MFIs, inputs dealers and NGOs. Other possibilities to increase the distribution include:

- Extending the system using a mobile subscription;
- Distributing index-based products that are not connected with a specific cultivated crop; and
- Developing a model for premium payment tailored to the farmers' financial constraints.

In terms of marketing, the awareness of weather-index insurance is still very low, and demand has yet to be created. Projects typically start with awareness creation where campaigns and training sessions are conducted with farmers, distributors, local insurers, regulators and governments.

Marketing activities are conducted on four levels:

- Training the trainers;
- Training key contacts among farmers;
- Direct awareness raising; and
- Mass promotion.

Technical systems for efficient operation

The development and set-up of parametric drought and livestock insurance product involves much use of appropriate technology and data which becomes even more relevant for the industrialisation and operationalisation of the products.

A front-to-back platform accessible to all stakeholders ensures an efficient administration of the index-based insurance products. It not only collects the relevant historical weather data to price the insurance products, but also tracks all the policies automatically with the daily incoming weather data from the satellites or weather stations.

Furthermore, it enables efficient settlement and mass policy management for area-yield-based programmes by uploading yield data at the end of the season. Distributors can register clients, manage all client-related information and contracts, and have access to the database of weather data to calculate premiums and book deals very efficiently. Insurers and reinsurers have access to reporting functionalities and can link the platform via API to legacy or financial systems to handle the entire life cycle of a policy, including payment management. The transparent set-up makes it easy for all stakeholders to have a centralised management of the scheme and, at the same time, creates much trust for new and innovative insurance products. 

Mr Sebastian Glink is director business development and technology at CelsiusPro, a Swiss InsurTech company that specialises in industrialising index insurance solutions to mitigate the effects of adverse weather, climate change and natural catastrophes.