

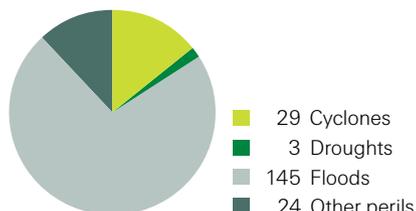
Sub-Saharan Africa – breadbasket for a growing population



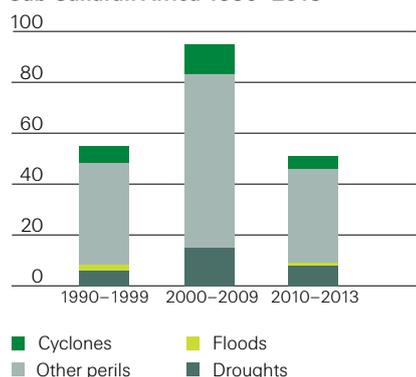
Farmers in Sub-Saharan Africa are heavily exposed to weather-related events like flood or drought. If they are hit by a natural catastrophe they often abandon their land. Insurance can help to keep farmers in business and contribute to a more resilient society.

Weather – for farmers it makes all the difference

Events: Sub-Saharan Africa by type 1990–2013



Number of events by decade Sub-Saharan Africa 1990–2013

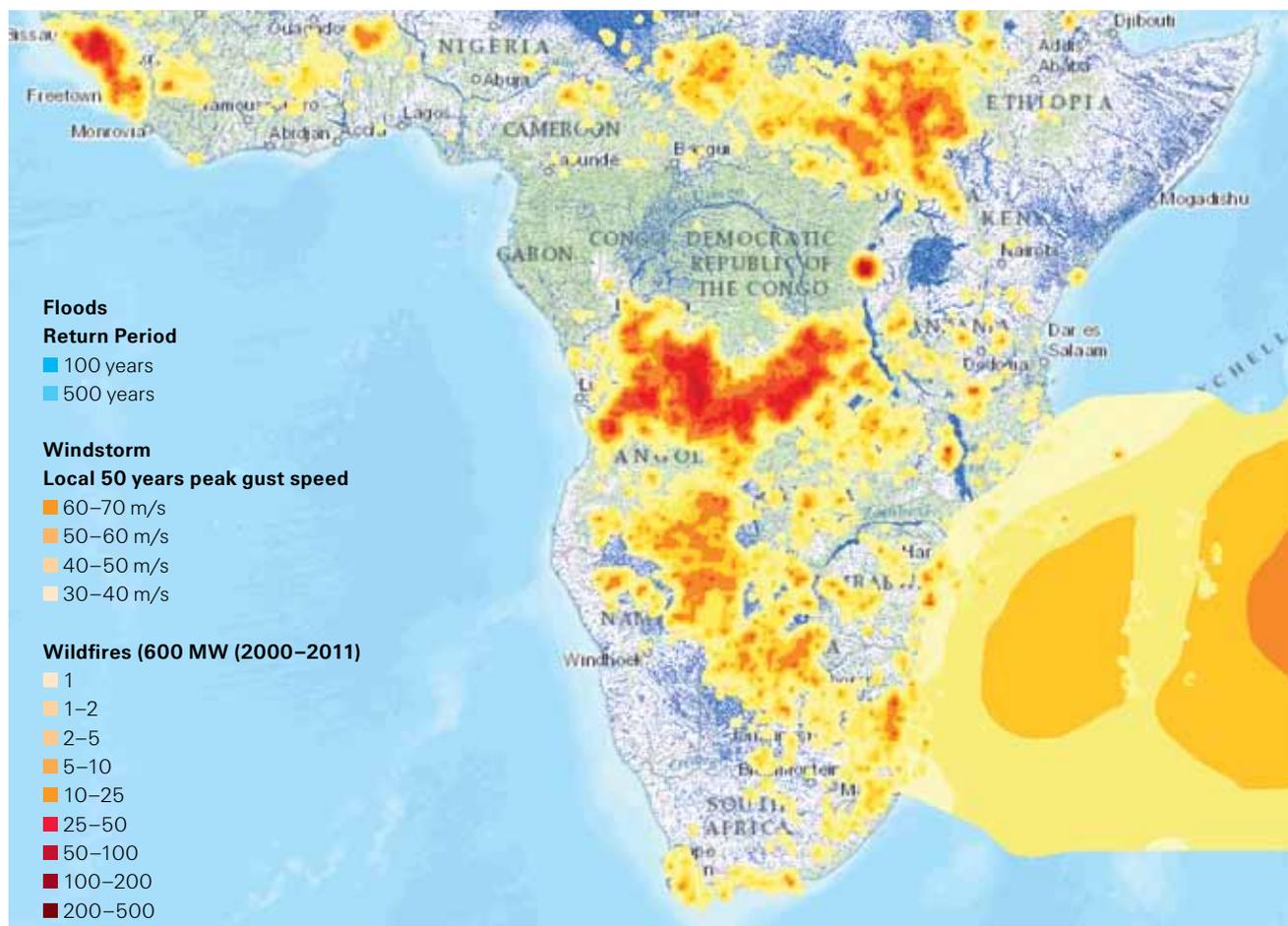


In the Sub-Saharan region, 95% of the farmed land is rain-fed. So an excess of rain or lack of it can be devastating. But empty waterholes and scorched fields are a common sight in Sub-Saharan Africa.

From 1980 to 2008, the number of droughts recorded reached 180². Of all disasters recorded, the ten largest in terms of people affected were drought-related. Excessive rain can have a similar impact. Harvests and soil can be swept into rivers and oceans more frequently as a result. According to the Global Facility for Disaster Reduction and Recovery, West Africa has witnessed a dramatic increase in flood events, with more than 2.2 million people affected in 2010 alone³.

Too much or too little rain makes plants and animals more susceptible to diseases. The spread of fungi, pests and contagious diseases can have a devastating effect on livestock. A night of frost, a lightning bolt starting a wild-fire or hail can threaten farmers' livelihoods on a large scale.

Due to climate change, extreme weather events will increase and they may occur in changing frequencies, also in areas where none happened in the past.



² Source UNISDR www.preventionweb.net/english/countries/statistics/index_region.php?rid=1
³ www.gfdr.org/node/851

Extreme weather can trigger crises



Weather-related catastrophes tend to have a ripple effect. Regardless of whether it's about cash crops or subsistence farming, extreme weather events can have a debilitating impact on many countries' economies.⁴

Famine is one of the most terrible consequences of natural disasters. Without adequate nutrition, people's health deteriorates and contagious diseases spread more easily. In addition, the costs of relief and reconstruction, as well as falling revenues impact the country or region as a whole. It's a vicious circle, curtailing funds at a time when they are most needed.

In the long term, farmers may abandon their land and move to the cities where many won't find work. This can result in worsening poverty in urban centers, a development which may increase social tensions and often social unrest. At the same time, the agricultural sector is deprived of the workforce and skill sets it needs. The abandoned land often turns into desert as a result.⁵

4 <http://go.worldbank.org/UO0ESIRF10>

5 <http://www.thecroforum.org/esg-country-risk-management-a-new-horizon/>

Risk Management for resilient agriculture

Weathering the effects of storm, flood and drought, requires a whole set of risk management measures.

Proactive planning is the starting point. Planting the right crops at the right time is a key aspect. Flood exposed areas can be protected to a certain extent. In areas which may experience more droughts, soil improvement can heighten resilience. Other areas may need preparation to fight the spread of new diseases. These activities will become ever more important, since climate change may change weather patterns. Hence risk mitigation has to adapt to new cycles of drought or excess rain.

Risk management can reduce the financial burden to a point. Insurance can help with the rest.

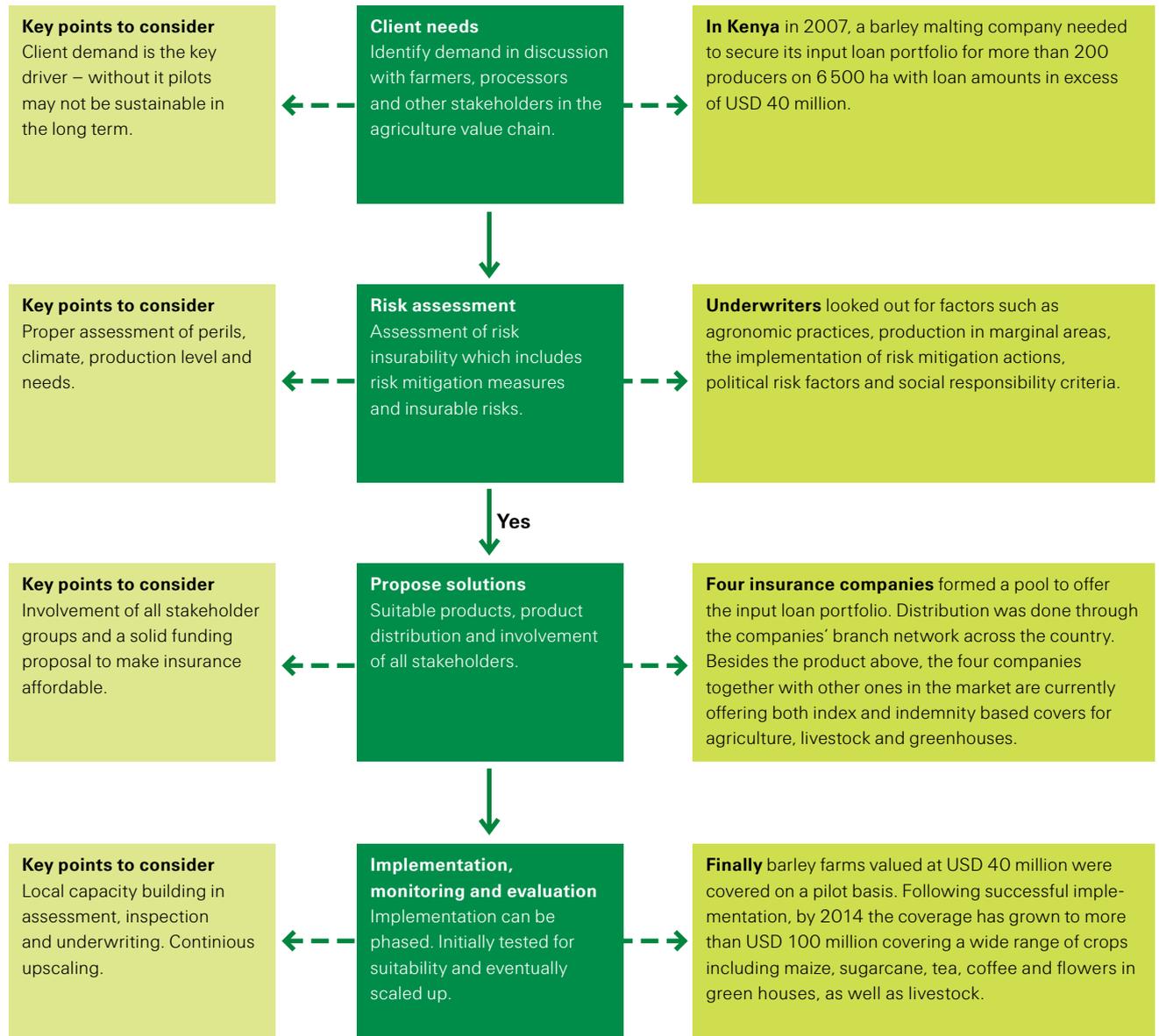
If a harvest is lost, farmers receive a pay-out which enables them to sustain their family. It allows them to buy new seeds and products needed to prepare for the next season. Today, a wide variety of products for different types of farming is available in the African market.

For commercial operations there are indemnity based covers. If triggered, they help to replace a lost harvest and give protection for the resulting business risk for farmers and other partners in the value chain like traders or processors. These types of policies consider business risks such as future crop prices. This requires experienced loss adjustors.

Smallholder farmers, who live from what they grow on their land benefit from index products. They pay out when weather stations or satellites register that abnormal weather will lead to a crop loss in that region. They work without loss adjustors because payments are triggered by pre-defined benchmarks. An example would be if a weather station registers that rainfall is below a certain predefined limit at a point in time.

Swiss Re's long history in agricultural reinsurance, together with our global footprint, enables us to bring global know-how to local markets. We can insure the production and financial risks of farmers and interconnected stakeholders such as input suppliers or grain processors. Strong partnerships between insurers and governments also play a role to improve food security globally.

Underwriting process



Risk Management for resilient agriculture

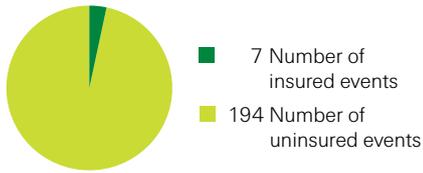
| Type of insurance | Loss Determination | Insured | Implementation in Africa |
|--|--|---|--|
| Indemnity-based insurance | | | |
| | The insurance pay-out is based on the loss degree as assessed by the loss adjuster | Commercial farming enterprises Farmers cooperatives, wholesalers, input suppliers, freight | In S. Africa, indemnity based covers started in 1929 with the issuance of hail covers |
| Named-peril crop insurance | | | |
| Covers losses due to specific and easily-recognizable perils such as hail, fire, windstorm, frost, or a combination of these | The insurance pay-out is based on the loss degree as assessed by the loss adjuster | Food/grain processors | Mainly hail and drought insurance covers in Southern and Eastern Africa. eg South Africa, Ethiopia, Kenya, Uganda, Zambia, Mauritius |
| Multi-peril crop insurance (MPCI) | | | |
| Covers losses from all unavoidable natural, climatic and biological perils | The insurance pay-out is based on the loss degree as assessed by the loss adjuster | Food/grain processors | MPCI covers are the most common insurance products in African countries |
| <hr/> | | | |
| Index-based insurance | | | |
| | | | |
| The insurance pay-out is assessed by measuring an index that is assumed to proxy actual losses | The insurance pay-out happens without a loss adjuster. A third party source is used as a proxy for pay out | Macro (national), meso (regional) or micro (individual) level | East Africa since 2008 |
| Area-yield index | | | |
| The pay-out is done at any time the realized average yield (eg, over a valley, a county or a defined geographic unit) falls below some threshold yield, regardless of the realized yield on the insured farm | The insurance pay-out happens without a loss adjuster A third party source is used as a proxy for pay out | Macro (national), meso (regional) or micro (individual) level | Malawi (2008) government rainfall index covering national production of maize |
| Weather-index | | | |
| The pay-out is done at any time an objective weather parameter, such as rainfall, temperature, or soil moisture, triggers a defined threshold | The insurance pay-out happens without a loss adjuster A third party source is used as a proxy for pay out | Food/grain processors Subsistence farmers | eg Zimbabwe (2012) Rainfall Index in the central part of the country covering mainly maize crop |
| Remote sensing index | | | |
| The pay-out is done at any time an objective weather parameter derived from a satellite (such as rainfall and NDVI* for crop and livestock) triggers a defined threshold | The insurance pay-out happens without a loss adjuster | Food/grain processors Subsistence farmers | eg Kenya (2008) Rainfall index covering pasturelands in the Masabit region |

NDVI: "Normalized Differenced Vegetation Index"

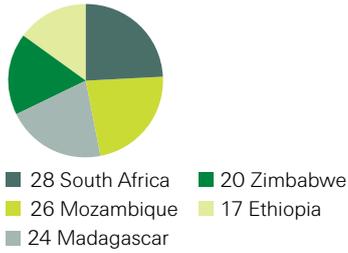
| Type of insurance | Loss Determination | Insured | Implementation in Africa |
|---|--|---|---|
| Other types of insurances | Can be either indemnity-based or index-based | Commercial producers Small-scale producers | Since early 30s in South Africa and more recently in East and West Africa |
| Livestock Covers cattle, swine, and poultry against mortality from non-epidemic diseases, fire, natural perils and accidents | Can be either indemnity-based or index-based | Commercial producers Small-scale producers | eg South Africa, Ethiopia, Kenya, Uganda, Zambia, Senegal |
| Forestry Compensate the owner of commercial plantations against fire and storm losses with claims payments based on pre-agreed timber values | Can be either indemnity-based or index-based | Commercial producers Small-scale producers | eg South Africa, Zambia, Kenya |
| Aquaculture Coverage for on- and off-shore fish and other types of aquatic farms against losses from natural perils, diseases, algae bloom or predators | Can be either indemnity-based or index-based | Commercial producers Small-scale producers | eg South Africa, Nigeria |
| Bloodstock Covers leisure, breeding and race horses against mortality due to accident or disease | Can be either indemnity-based or index-based | Commercial producers Small-scale producers | eg South Africa, Kenya, Zimbabwe |
| Greenhouse Provides greenhouse structures with coverage against natural perils, plants against frost and debris from damaged | Can be either indemnity-based or index-based | Commercial producers Small scale producers | eg Ethiopia, Kenya, Uganda |

Summary

Events: Sub-Saharan Africa by type 1990–2013



Top 10 countries by number of events 1990–2013



With its increasing population, Africa is facing a food and economic challenge. Today, farming is the main factor in many economies and its importance will grow further in the upcoming decades. The World Bank has stated that growth in agriculture is twice as effective in reducing poverty as non-agricultural activities.

The heavy reliance on agriculture in Sub-Saharan Africa means that business must be better protected against the perils it is exposed to. Taking out the volatility in farmers' income helps to make societies more resilient when disasters strike. Children can stay in school and communities are not totally reliant on emergency aid.

A well-nourished population is also less prone to infectious diseases, which in turn puts less pressure on the public health infrastructure. Overall, the economy is much healthier and the effects of migration are minimized.

Furthermore, people can start to save money or to invest in their future.

As the example of mature markets show, insurance can help farmers to stay in business. Insurers with their in-depth know-how of climate change and loss prevention can help to educate and enable farmers to prepare for disaster.

So there are huge benefits to be had both by increasing the number of farmers with insurance coverage and by narrowing the very wide protection gap.

Still, insurance is not the sole means to achieve a resilient society. Partnerships between the insurance industry, local companies, governments and agriculture are also required to generate the kind of solutions that fit local needs and contribute to resilient agriculture.



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Title:

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